GT24-B8236-IL

Service Engineer's Manual

PREFACE

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Version 1.1

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FCC Declaration

Notice for the USA
Compliance Information Statement (Declaration of Conformity Procedure) DoC FCC Part 15: This device complies with part 15 of the FCC Rules

This device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions:

- This device must not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesirable operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Notice for Canada

This Class A digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la Classe A est conforme à la norme NMB-003 du Canada.

Notice for Europe (CE Mark)
This product is in conformity with the Council Directive 2004/108/EC.

CAUTION: Lithium battery included with this board. Do not puncture, mutilate, or dispose of battery in fire. There will be danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by manufacturer. Dispose of used battery according to manufacturer instructions and in accordance with your local regulations.

About this Manual

This manual provides you with instructions on installing your TYAN GT24-B8236-IL. This Manual is intended for experienced users and integrators with hardware knowledge of personal computers.

This manual consists of the following parts:

1. **Chapter1: Product Introduction**

   Provides an introduction to the TYAN GT24-B8236-IL barebones, standard parts list, describes the external components, gives a table of key components, and provides block diagram of the system.

2. **Chapter2: Hardware Setup**

   Covers procedures on installing the CPU, memory modules and hard drives.

3. **Chapter3: Installation Options**

   Covers removal and replacement procedures for pre-installed compor

4. **Appendix:**

   List the cable connection and FRU part tables for reference of system setup, and technical support in case a problem arises with your system.

Safety and Compliance Information

Before installing and using TYAN GT24-B8236-IL, take note of the following precautions:

- Read all instructions carefully.
- Do not place the unit on an unstable surface, cart, or stand.
- Do not block the slots and opening on the unit, which are provided for ventilation.
- Only use the power source indicated on the marking label. If you are not sure, contact the power company.
- The unit uses a three-wire ground cable, which is equipped with a third pin to ground the unit and prevent electric shock. Do not defeat the purpose of this pin. If your outlet does not support this kind of plug, contact your electrician to replace your obsolete outlet.
- Do not place anything on the power cord. Place the power cord where it will not be in the way of foot traffic.
- Follow all warnings and cautions in this manual and on the unit case.
- Do not push objects in the ventilation slots as they may touch high voltage components and result in shock and damage to the components.
- When replacing parts, ensure that you use parts specified by the manufacturer.
- When service or repairs have been done, perform routine safety checks to verify that the system is operating correctly.
- Avoid using the system near water, in direct sunlight, or near a heating device.
- Cover the unit when not in use.

Safety Information

Retain and follow all product safety and operating instructions provided with your equipment. In the event of a conflict between the instructions in this guide and the instructions in equipment documentation, follow the guidelines in the equipment documentation.

Observe all warnings on the product and in the operating instructions. To reduce the risk of bodily injury, electric shock, fire and damage to the equipment, observe all precautions included in this guide.

You must become familiar with the safety information in this guide before you install, operate, or service TYAN products.

Symbols on Equipment

	Caution. This symbol indicates a potential hazard. The potential for injury exists if cautions are not observed. Consult equipment documentation for specific details.
	Warning. This symbol indicates the presence of hazardous energy circuits or electric shock hazards. Refer all servicing to qualified personnel.
	Warning. This symbol indicates the presence of a hot surface or hot component. If this surface is contacted, the potential for injury exists. To reduce risk of injury from a hot component, allow the surface to cool before touching.

General Precautions

• Follow all caution and warning instructions marked on the equipment and explained in the accompanying equipment documentation.

Machine Room Environment

• Make sure that the area in which you install the system is properly ventilated and climate-controlled.

- Ensure that the voltage and frequency of your power source match the voltage and frequency inscribed on the electrical rating label of the equipment.
- Do not install the system in or near a plenum, air duct, radiator, or heat register.
- Never use the product in a wet location.

Equipment Chassis

- Do not block or cover the openings to the system.
- Never push objects of any kind through openings in the equipment. Dangerous voltages might be present.
- Conductive foreign objects can produce a short circuit and cause fire, electric shock, or damage to your equipment.
- Lift equipment using both hands and with your knees bent.

Equipment Racks

To avoid injury or damage to the equipment:

- Observe local occupational health and safety requirements and guidelines for manual materials handling.
- Do not attempt to move a rack by yourself; a minimum of two people are needed to move a rack.
- Do not attempt to move a fully loaded rack. Remove equipment from the rack before moving it.
- Do not attempt to move a rack on an incline that is greater than 10 degrees from the horizontal.
- Make sure the rack is properly secured to the floor or ceiling.
- Make sure the stabilizing feet are attached to the rack if it is a single-rack installation.
- Make sure racks are coupled together if it is a multiple-rack installation.
- Make sure the rack is level and stable before installing an appliance in the rack.
- Make sure the leveling jacks are extended to the floor.

- Make sure the full weight of the rack rests on the leveling jacks.
- Always load the rack from the bottom up. Load the heaviest component in the rack first.
- Make sure the rack is level and stable before pulling a component out of the rack.
- Make sure only one component is extended at a time. A rack might become unstable if more than one component is extended.

To avoid damage to the equipment:

- The rack width and depth must allow for proper serviceability and cable management.
- Ensure that there is adequate airflow in the rack. Improper installation or restricted airflow can damage the equipment.
- The rack cannot have solid or restricted airflow doors. You must use a mesh door on the front and back of the rack or remove the doors to ensure adequate air flow to the system.
- If you install the Model in a rack, do not place equipment on top of the unit. It will cause restricted airflow and might cause damage to the equipment.
- Make sure the product is properly matted with the rails. Products that are improperly matted with the rails might be unstable.
- Verify that the AC power supply branch circuit that provides power to the rack is not overloaded. This will reduce the risk of personal injury, fire, or damage to the equipment. The total rack load should not exceed 80 percent of the branch circuit rating. Consult the electrical authority having jurisdiction over your facility wiring and installation requirements.

Equipment Power Cords

- Use only the power cords and power supply units provided with your system. The system might have one or more power cords.
- Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.
- In all European electrical environments, you must ground the Green/Yellow tab on the power cord. If you do not ground the Green/Yellow tab, it can cause an electrical shock due to high leakage currents.

• Do not place objects on AC power cords or cables. Arrange them so that no one might accidentally step on or trip over them.

• Do not pull on a cord or cable. When unplugging from the electrical outlet, grasp the cord by the plug.

• To reduce the risk of electrical shock, disconnect all power cords before servicing the appliance.

Equipment Batteries

• The system battery contains lithium manganese dioxide. If the battery pack is not handled properly, there is risk of fire and burns.

• Do not disassemble, crush, puncture, short external contacts, or dispose of the battery in fire or water.

• Do not expose the battery to temperatures higher than 60°C (140°F).

• The system battery is not replaceable. If the battery is replaced by an incorrect type, there is danger of explosion. Replace the battery only with a spare designated for your product.

• Do not attempt to recharge the battery.

• Dispose of used batteries according to the instructions of the manufacturer. Do not dispose of batteries with the general household waste. To forward them to recycling or proper disposal, use the public collection system or return them to TYAN, your authorized TYAN partner, or their agents.

Equipment Modifications

• Do not make mechanical modifications to the system. TYAN is not responsible for the regulatory compliance of TYAN equipment that has been modified.

Equipment Repairs and Servicing

• The installation of internal options and routine maintenance and service of this product should be performed by individuals who are knowledgeable about the procedures, precautions, and hazards associated with equipment containing hazardous energy levels.

• Do not exceed the level of repair specified in the procedures in the product documentation. Improper repairs can create a safety hazard.

- Allow the product to cool before removing covers and touching internal components.
- Remove all watches, rings, or loose jewelry when working before removing covers and touching internal components.
- Do not use conductive tools that could bridge live parts.
- Use gloves when you remove or replace system components; they can become hot to the touch.
- If the product sustains damage requiring service, disconnect the product from the AC electrical outlet and refer servicing to an authorized service provider. Examples of damage requiring service include:

– The power cord, extension cord, or plug has been damaged.

– Liquid has been spilled on the product or an object has fallen into the product.

– The product has been exposed to rain or water.

– The product has been dropped or damaged.

– The product does not operate normally when you follow the operating instructions.

Table of Contents

Chapter 1: Overview 15
1.1 About the TYAN GT24-B8236-IL 15
1.2 Product Model 15
1.3 Features 16
1.4 Standard Parts List 22
1.4.1 Box Contents 22
1.4.2 Accessories 23
1.6 About the Product 24
1.6.1 System Front View 24
1.6.2 System Rear View 25
1.6.3 LED Definitions 26
1.6.4 Motherboard (S8236-IL) Layout 28
1.6.5 Jumpers & Connectors 29
1.6.6 System Block Diagram 30
1.6.7 Internal View 31
Chapter 2: Setting Up 33
2.0.1 Before you Begin 33
2.0.2 Work Area 33
2.0.3 Tools 33
2.0.4 Precautions 34
2.1 Installing Motherboard Components 35
2.1.1 Removing the Chassis Cover 35
2.1.2 Installing the CPU and Heatsink 36
2.1.3 Installing the Memory 39
2.1.4 Installing Hard Drives 44
2.1.5 Installing the PCI-E Cards 46
2.2 Rack Mounting 50
2.2.1 Installing the Server in a Rack 50
2.2.2 Installing the inner Rails to the Chassis 51
2.2.3 Installing the Outer Rails to the Rack 51
2.2.4 Rack mounting the Server 52
Chapter 3: Replacing Pre-Installed Components 55
3.1 Introduction 55
3.2 Disassembly Flowchart 55
3.3 Removing the Cover 57
3.4 Replacing Motherboard Components 57
3.4.1 Replacing Expansion Card 57
3.4.2 Disconnecting All Motherboard Cables 59

3.4.3 Removing the Motherboard 60
3.5 Replacing the Slim DVD-ROM (optional) 61
3.6 Replacing the LED Control Board 63
3.6.1 M1008 LED Control Board Features 65
3.6.2 M1008 LED Control Board Connector Pin Definition 65
3.7 Replacing the System Fan..... 66
3.8 Replacing the M1235 HDD Backplane 69
3.8.1 M1235 HDD Backplane Features..... 71
3.8.2 M1235 Connector Pin Definitions..... 73
3.9 Replacing the Power Supply 75
3.9.1 Replacing the M7016 Power Distribution Board..... 79
3.9.2 M7016 Power Distribution Board Feature..... 80
3.9.3 M7016 Power Distribution Board Pin Definitions 80
3.10 Replacing the Redundant Power Supply..... 82
Appendix I: Cable Connection Tables 85
Appendix II: FRU Parts Table 87
Appendix III: Technical Support 89

Chapter 1: Overview

1.1 About the TYAN GT24-B8236-IL

Congratulations on your purchase of the TYAN® GT24-B8236-IL, a highly optimized rack-mountable barebone system. The GT24-B8236-IL is designed to support both dual AMD® 45nm 8-Core/12-Core Opteron 6100 Series and 32nm 8-Core/12-Core/16-Core Opteron 6200 Series Processors. Leveraging advanced technology from AMD®, GT24 B8236-IL server system is capable of offering scalable 32 and 64-bit computing, high bandwidth memory design, and up to 256GB REG or 64GB UNB 800/1066/1333/1600/1866 MHz DDR3 ECC memory, providing a rich feature set and incredible performance. and lightning-fast PCI-E bus implementation. The GT24-B8236-IL not only empowers your company in nowadays IT demand but also offers a smooth path for future application usage.

TYAN® also offers the GT24-B8236-IL in a version that can support up to to four hot-swap hard drives. The GT24-B8236-IL uses TYAN®'s latest chassis, featuring a robust structure and a solid mechanical enclosure. All of this provides GT24 -B8236-IL the power and flexibility to meet the needs of nowadays server application.

1.2 Product Model

Model	HDD Bays	Power supply
B8236G24V4H-IL	Hot-swap, 4 HDDs	500 Watts (110/220VAC) Single
B8236G24W4H-IL	Hot-swap, 4 HDDs	500 Watts (110/220VAC) Single
B8236G24W4HR-IL	Hot-swap, 4 HDDs	(1)+(1) 450 Watts Redundant power

1.3 Features

TYAN GT24-B8236-IL (B8236G24W4H-IL)

System	Form Factor	1U Rackmount
	Chassis Model	GT24
	Dimension (D x W x H)	25.4" x 17.2" x 1.72" (645 x 436 x 43.6mm)
	Motherboard	S8236WGM3NR-IL
	Board Dimension	EEB, 12"x13" (305x330mm)
	Gross Weight	17 kg
Front Panel	Buttons	(1) RST / (1) NMI / (1) ID / (1) PWR w/ LED
	LEDs	(1) ID / (1) Warning / (3) LAN / (1) Reserved
	I/O Ports	(2) USB ports
External Drive Bay	Type / Q'ty	2.5" or 3.5" Hot-Swap / (4)
	Supported HDD Interface	SATA-II 3.0Gb/s / SAS 6.0Gb/s
System Cooling Configuration	FAN	(6) 4cm fans
Power Supply	Type	EPS1U
	Efficiency	PFC / 80 plus silver
	Input Range	Full-range AC(100-240V)
	Frequency	60 Hertz
	Output Watts	500 Watts
Processor	Supported CPU Series	AMD 45nm 8-Core/12-Core Opteron 6100 Series Processors (Magny-Cours)
		AMD 32nm 8-Core/12-Core/16-Core Opteron 6200 Series Processors (Interlagos)
	Socket Type / Q'ty	G34 / (2)
	Thermal Design Power(TDP)	115W
	System Bus	Up to 6.4 GT/s Hyper-Transport link support
Chipset	Chipset	AMD SR5690 + SP5100
	Super I/O	Winbond W83627DHG-P
Memory	Supported DIMM Qty	(16) DIMM slots
	DIMM Type / Speed	U/RDDR3, LV and ULV DDR3, LRDIMM / 1866/ 1600/ 1333/ 1066/ 800 MHz
	Capacity	Up to 256GB RDIMM/ 64GB UDIMM
	Memory channel	4 Channels per CPU
	Memory voltage	1.5V/ 1.35V/ 1.25V
Expansion Slots	PCI-E	(2) PCI-E Gen.2 x16 slots
	Pre-install TYAN Riser Card	M2091, PCI-E x16 1U riser card (left) / M2091-R, PCI-E x16 1U riser card (right)

	Max. HBA Dimension (H x L)	(2) 111.15mm x 167.65mm (FH/HL)
LAN	Port Q'ty	(3)
	Controller	Intel 82574L / Intel 82576EB
Graphic	Connector type	D-Sub 15-pin
	Resolution	Up to 1600x1200@60Hz
	Chipset	Aspeed AST2050
I/O Ports	USB	(4) ports (2 at front, 2 at rear)
	COM	(1) DB-9 COM port
	VGA	(1) D-Sub 15-pin port
	RJ-45	(3) ports
System Monitoring	Chipset	Winbond W83795G
	Voltage	Monitors voltage for CPU, memory, chipset & power supply
	Temperature	Monitors temperature for CPU & system environment
	LED	Over temperature warning indicator / Fan & PSU fail LED indicator
	Others	Chassis intrusion detection / Watchdog timer support
Server Management	Onboard Chipset	Onboard Aspeed AST2050
	AST2050 IPMI Feature	IPMI 2.0 compliant baseboard management controller (BMC) / Supports storage over IP and remote platform-flash / BIOS update
	AST2050 iKVM Feature	24-bit high quality video compression / Dual 10/100 Mb/s MAC interfaces
BIOS	Brand / ROM size	AMI / 4MB
	Feature	Plug and Play (PnP) /PCI2.3 /WfM2.0 /SMBIOS2.3 /PXE boot / ACPI 2.0 power management /Power on mode after power recovery / User-configurable H/W monitoring / Auto-configurable of hard disk types
Operating System	OS supported list	Please refer to our OS supported list.
Regulation	FCC (DoC)	Class A
	CE (DoC)	Yes
Operating Environment	Operating Temp.	10° C ~ 35° C (50° F~ 95° F)
	Non-operating Temp.	- 40° C ~ 70° C (-40° F ~ 158° F)
	In/Non-operating Humidity	90%, non-condensing at 35° C
RoHS	RoHS 6/6 Compliant	Yes
Package Contains	Barebone	(1) GT24B8236-IL Barebone
	Manual	(1) MB User's manual + (1) BB User's manual
	Installation CD	(1) TYAN installation CD
	Heatsink / Cooler	(2) G34 CPU heatsinks
	Rail kit	(1) CRAL-0031, sliding rail kit for KGT24/ KGT62
	Mounting Ear	(1) mounting ear kit
	Cable Power Cord	(1) CCBL-0310, US type power cord / (1) CCBL-0300, EU type power cord

Optional accessories	**Peripheral**	(1) CSTK-0080, Slim type DVD kit w/cables

TYAN GT24B8236-IL (B8236G24V4H-IL)

System	**Form Factor**	1U Rackmount
	Chassis Model	GT24
	Dimension (D x W x H)	25.4" x 17.2" x 1.72" (645 x 436 x 43.6mm)
	Motherboard	S8236GM3NR-IL
	Board Dimension	EEB, 12"x13" (305x330mm)
	Gross Weight	17 kg
Front Panel	**Buttons**	(1) RST / (1) NMI / (1) ID / (1) PWR w/ LED
	LEDs	(1) ID / (1) Warning / (3) LAN / (1) Reserved
	I/O Ports	(2) USB ports
External Drive Bay	**Type / Q'ty**	2.5" or 3.5" Hot-Swap / (4)
	Supported HDD Interface	SATA-II 3.0Gb/s
System Cooling Configuration	**FAN**	(6) 4cm fans
Power Supply	**Type**	EPS1U
	Efficiency	PFC / 80 plus silver
	Input Range	Full-range AC(100-240V)
	Frequency	60 Hertz
	Output Watts	500 Watts
Processor	**Supported CPU Series**	AMD 45nm 8-Core/12-Core Opteron 6100 Series Processors (Magny-Cours)
		AMD 32nm 8-Core/12-Core/16-Core Opteron 6200 Series Processors (Interlagos)
	Socket Type / Q'ty	G34 / (2)
	Thermal Design Power(TDP)	115W
	System Bus	Up to 6.4 GT/s Hyper-Transport link support
Chipset	**Chipset**	AMD SR5690 + SP5100
	Super I/O	Winbond W83627DHG-P
Memory	**Supported DIMM Qty**	(16) DIMM slots
	DIMM Type / Speed	U/RDDR3, LV and ULV DDR3, LRDIMM / 1866/ 1600/ 1333/ 1066/ 800 MHz
	Capacity	Up to 256GB RDIMM/ 64GB UDIMM
	Memory channel	4 Channels per CPU
	Memory voltage	1.5V/ 1.35V/ 1.25V
Expansion Slots	**PCI-E**	(2) PCI-E Gen.2 x16 slots
	Pre-install TYAN Riser Card	M2091, PCI-E x16 1U riser card (left) / M2091-R, PCI-E x16 1U riser card (right)
	Max. HBA Dimension (H x L)	(2) 111.15mm x 167.65mm (FH/HL)
LAN	**Port Q'ty**	(3)
	Controller	Intel 82574L / Intel 82576EB

Graphic	Connector type	D-Sub 15-pin
	Resolution	Up to 1600x1200@60Hz
	Chipset	Aspeed AST2050
I/O Ports	USB	(4) ports (2 at front, 2 at rear)
	COM	(1) DB-9 COM port
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Server Management	Onboard Chipset	Onboard Aspeed AST2050
	AST2050 IPMI Feature	IPMI 2.0 compliant baseboard management controller (BMC) / Supports storage over IP and remote platform-flash / BIOS update
	AST2050 iKVM Feature	24-bit high quality video compression / Dual 10/100 Mb/s MAC interfaces
BIOS	Brand / ROM size	AMI / 4MB
	Feature	Plug and Play (PnP) /PCI2.3 /WfM2.0 /SMBIOS2.3 /PXE boot / ACPI 2.0 power management /Power on mode after power recovery / User-configurable H/W monitoring / Auto-configurable of hard disk types
Operating System	OS supported list	Please refer to our OS supported list.
Regulation	FCC (DoC)	Class A
	CE (DoC)	Yes
Operating Environment	Operating Temp.	10° C ~ 35° C (50° F~ 95° F)
	Non-operating Temp.	- 40° C ~ 70° C (-40° F ~ 158° F)
	In/Non-operating Humidity	90%, non-condensing at 35° C
RoHS	RoHS 6/6 Compliant	Yes
Package Contains	Barebone	(1) GT24B8236-IL Barebone
	Manual	(1) MB User's manual + (1) BB User's manual
	Installation CD	(1) TYAN installation CD
	Heatsink / Cooler	(2) G34 CPU heatsinks
	Rail kit	(1) CRAL-0031, sliding rail kit for KGT24/ KGT62
	Mounting Ear	(1) mounting ear kit
	Cable Power Cord	(1) CCBL-0310, US type power cord / (1) CCBL-0300, EU type power cord
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	Supported HDD Interface	SATA-II 3.0Gb/s / SAS 6.0Gb/s
System Cooling Configuration	FAN	(6) 4cm fans
Power Supply	Type	ERP1U
	Efficiency	PFC / 80 plus silver
	Redundancy	1+1
	Input Range	Full-range AC(100-240V)
	Frequency	60 Hertz
	Output Watts	450 Watts
Processor	Supported CPU Series	AMD 45nm 8-Core/12-Core Opteron 6100 Series Processors (Magny-Cours)
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	DIMM Type / Speed	U/RDDR3, LV and ULV DDR3, LRDIMM modules / Design spec compliant with 1866/ 1600/ 1333/ 1066/ 800 MHz
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	Controller	Intel 82574L / Intel 82576EB
Graphic	Connector type	D-Sub 15-pin
	Resolution	Up to 1600x1200@60Hz

	Chipset	Aspeed AST2050
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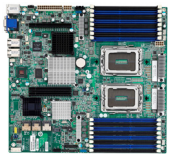
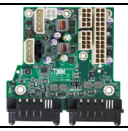
	Manual	(1) MB User's manual + (1) BB User's manual
	Installation CD	(1) TYAN installation CD
	Cable Power Cord	(2) CCBL-0310, US type power cord / (2) CCBL-0300, EU type power cord
Optional accessories	**Peripheral**	(1) CSTK-0080, Slim type DVD kit w/cables

1.4 Standard Parts List

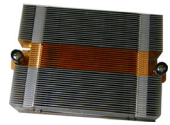
This section describes GT24-B8236-IL package contents and accessories. Open the box carefully and ensure that all components are present and undamaged. The product should arrive packaged as illustrated below.

1.4.1 Box Contents

Component	Description
	1U chassis,(4) hot swap HDDbays
	TYAN® S8236-IL system board (pre-installed)
	500W single Power Supply
	450W Power Supply
	(6) 40x28mm System FAN (pre-installed)
	M1008 LED control board (pre-installed)
	M7016 Power Distribution Board (pre-installed)
	M1235 SATA/SAS HDD Backplane
	M2091 PCI-E riser card
	M2091-R PCI-E riser card

1.4.2 Accessories

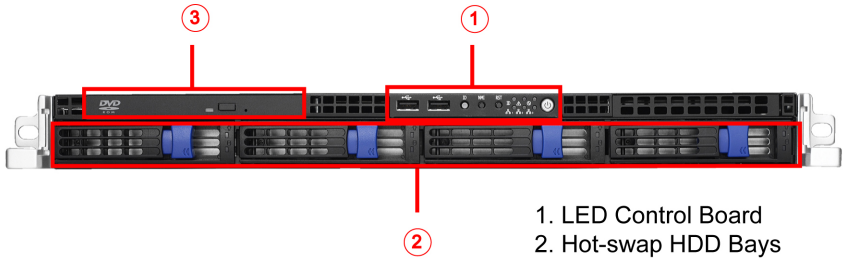
If any items are missing or appear damaged, contact your retailer or browse to TYAN®'s website for service: http://www.tyan.com
The web site also provides information of other TYAN® products, as well as FAQs, compatibility lists, BIOS settings, etc.

	
TYAN® Motherboard Drive CD	Heatsink x2
HDD Screw Pack	Mounting Ears & Screws
AC Power Cord 125V (US)	AC Power Cord 250V (Europe)
Barebone Manual	Mainboard Manual
Rail Kit	
Rail with Bracket x 2	Screw Pack

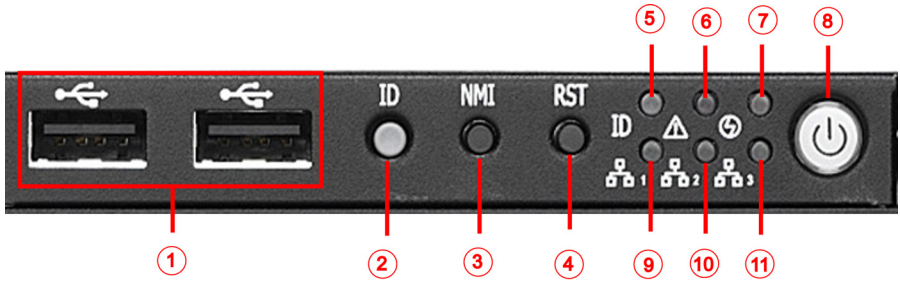
1.6 About the Product

The following views show you the product.

1.6.1 System Front View



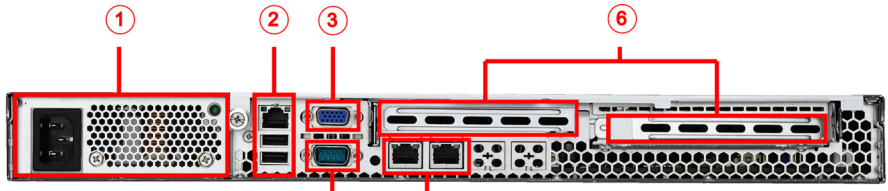
1. LED Control Board
2. Hot-swap HDD Bays
3. Slim DVD-ROM (optional)



1. USB Ports
2. ID Button
3. NMI Button
4. Reset Button
5. ID LED
6. Warning LED
7. BMC LED (reserved)
8. Power Button (with LED)
9. NIC1
10. NIC2
11. NIC3

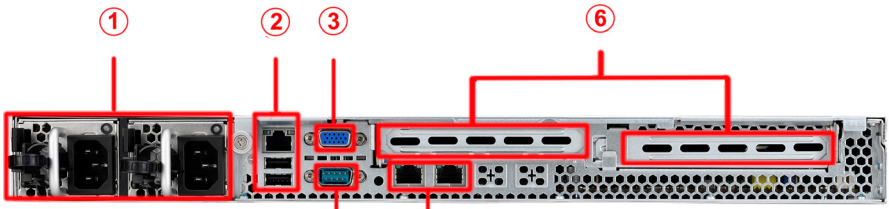
1.6.2 System Rear View

B8236G24V4H-IL / B8236G24W4H-IL



1. EPS Power Supply
2. LAN3 + 2 USB Ports
3. VGA Port
4. Serial Port
5. LAN2 (left) + LAN1 (right)
6. 2 PCI-E Slots

B8236G24W4HR-IL



1. 450W EPS PWR
2. LAN3+2USB Ports
3. VGA Port
4. Serial Port
5. LAN2 (left) + LAN1(right)
6. 2 PCI-E Slots

1.6.3 LED Definitions

Front Panel

LED	State	Color	Description
Power LED	On	Green	System is turned on
	Blinking	Green	System is under S1 or S3 state
	Off	Off	Power off
NIC1	Blinking	Green	LAN active
	On	Green	LAN linked
	off	off	LAN not linked
NIC2	Blinking	Green	LAN active
	On	Green	LAN linked
	off	off	LAN not linked
NIC3	Blinking	Green	LAN active
	On	Green	LAN linked
	off	off	LAN not linked
Warning LED	On	Red	Fan fail /Over temperature /Over voltage
	Off	Off	No failure
ID LED	On	Blue	System identified
	Off	Off	System not identified

Rear I/O

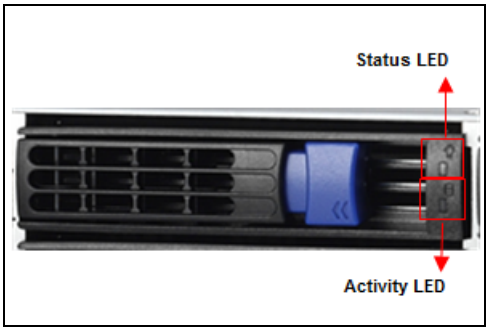
LAN LED

LED	State	Color	Description
RJ-45 Activity(left)	On	Green	10Mb/100Mb/1000Mb linked
	Blinking	Green	10Mb/100Mb/1000Mb activity
	Off	Off	No LAN linked
RJ-45 Linkage(Right)	On	Amber	1000Mb linked
	On	Green	100Mb linked
	Off	Off	10Mb mode or No LAN linked

NOTE: "Left" and "Right" are viewed from the rear panel.

ID LED

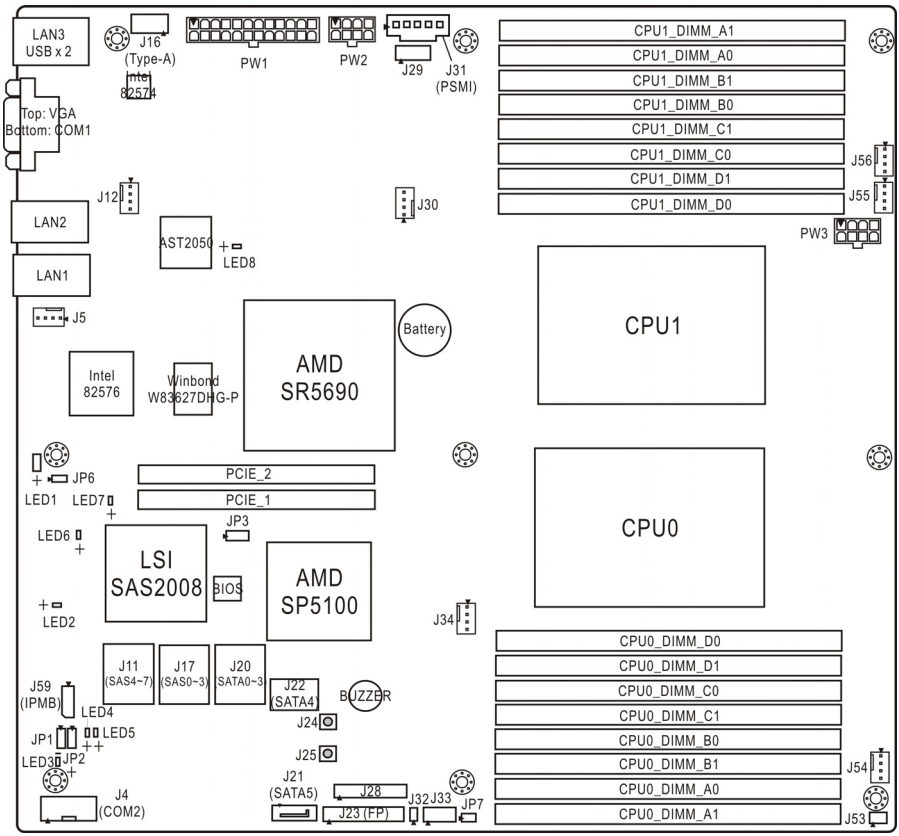
LED	State	Color	Description
ID LED	On	Blue	System identified
	Off	Off	System not identified



HDD LED

HDD Status		Status LED 2/4/6/8 Color: Amber	Activity LED 1/3/5/7 Color: Green
No Driver Present or power disconnected		OFF	OFF
Driver Present	No Activity	OFF	ON
	Access Activity	OFF	Blinking
HDD Fail		On Solid	OFF
Identify (Locate the HDD)		Blinking(1Hz)	x
SAS/SATA RAID Building		Blinking(4Hz)	x

1.6.4 Motherboard (S8236-IL) Layout



The diagram is representative of the latest board revision available at the time of publishing. The board you receive may not look exactly like the above diagram.

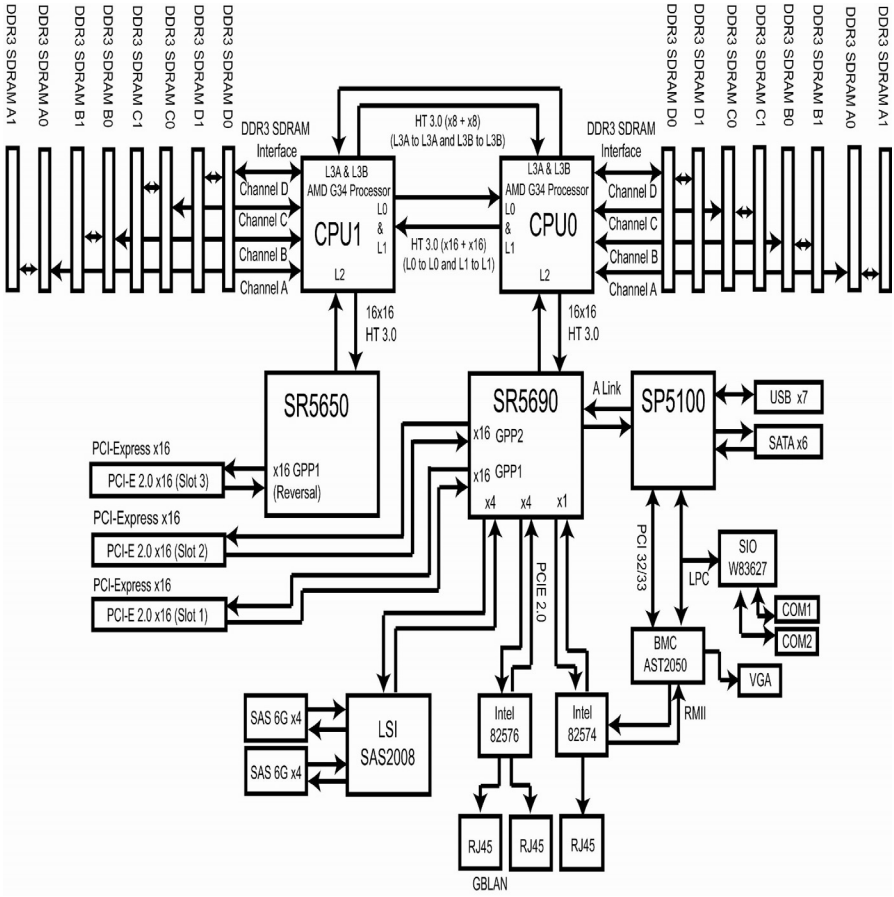
1.6.5 Jumpers & Connectors

Jumper/Connector	Function
J4	COM2 Header
J5/J12/J30/J34/J54/J55/J56	4-pin Fan Connectors
J23	Front Panel Header
J24	Reset Switch
J25	Power Switch
J28	Fan TACH Connector
J29/J33	USB Front Panel Header
J31	PSMI Connector
J32	LAN3 Active LED Header
J53	HDD Fault Header
J59	IPMB Header
JP1/JP2	COM2 Function Select Jumper
JP3	Clear CMOS Jumper
JP6	Front Panel ID LED Button
JP7	Chassis Intrusion Header
LED1	ID LED
LED2	SAS Flash Ready (Amber)
LED3	SAS HD Fault LED (Amber)
LED4	Power On LED (Green)
LED5	Standby LED (Green)
LED6	SAS Error LED (Amber)
LED7	SAS Heart Beat LED (Green)
LED8	BMC Heart Beat LED (Green)

Jumper Legend

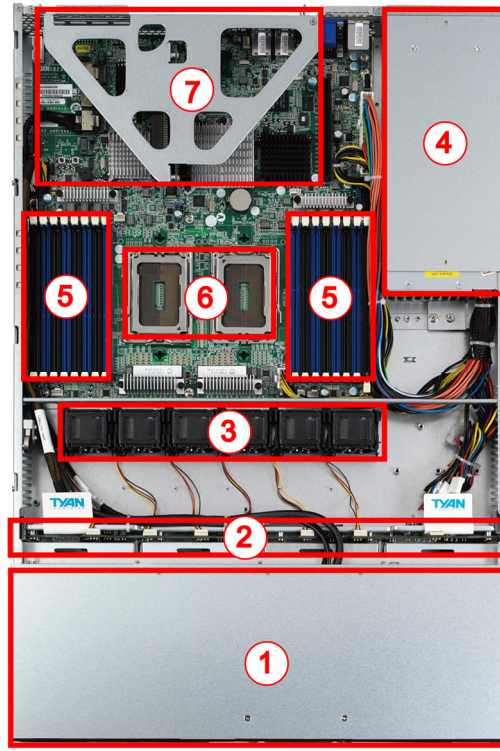
	OPEN - Jumper OFF	Without jumper cover
	CLOSED - Jumper ON	With jumper cover

1.6.6 System Block Diagram

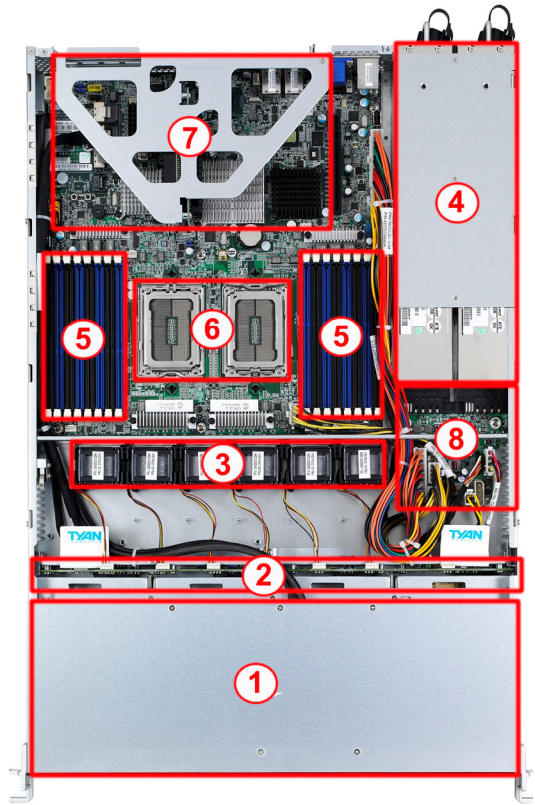


1.6.7 Internal View

B8236G24V4H-IL / B8236G24W4H-IL



1	HDD Cage
2	M1235 HDD Backplane
3	System Fans
4	500W Power Supply
5	Memory Slots
6	CPU Sockets
7	PCI-E Riser Card Assembly



1	HDD Cage
2	M1235 HDD Backplane
3	System Fans
4	450W Power Supply x2
5	Memory Slots
6	CPU Sockets
7	PCI-E Riser Card Assembly
8	M7016 Power Distribution Board

Chapter 2: Setting Up

2.0.1 Before you Begin

This chapter explains how to install the CPUs, CPU heatsinks, memory modules, and hard drives. Instructions on inserting add on cards are also given.

2.0.2 Work Area

Make sure you have a stable, clean working environment. Dust and dirt can get into components and cause malfunctions. Use containers to keep small components separated. Putting all small components in separate containers prevents them from becoming lost. Adequate lighting and proper tools can prevent you from accidentally damaging the internal components.

2.0.3 Tools

The following procedures require only a few tools, including the following:

- A cross head (Phillips) screwdriver
- A grounding strap or an anti-static pad

Most of the electrical and mechanical connections can be disconnected with your hands. It is recommended that you do not use pliers to remove connectors as it may damage the soft metal or plastic parts of the connectors.

2.0.4 Precautions

Components and electronic circuit boards can be damaged by discharges of static electricity. Working on a system that is connected to a power supply can be extremely dangerous. Follow the guidelines below to avoid damage to GT24-B8236-IL or injury to yourself.

- Ground yourself properly before removing the top cover of the system. Unplug the power from the power supply and then touch a safely grounded object to release static charge (i.e. power supply case). If available, wear a grounded wrist strap. Alternatively, discharge any static electricity by touching the bare metal chassis of the unit case, or the bare metal body of any other grounded appliance.

- Avoid touching motherboard components, IC chips, connectors, memory modules, and leads.

- The motherboard is pre-installed in the system. When removing the motherboard, always place it on a grounded anti-static surface until you are ready to reinstall it.

- Hold electronic circuit boards by the edges only. Do not touch the components on the board unless it is necessary to do so. Do not flex or stress circuit boards.

- Leave all components inside the static-proof packaging that they ship with until they are ready for installation.

- After replacing optional devices, make sure all screws, springs, or other small parts are in place and are not left loose inside the case. Metallic parts or metal flakes can cause electrical shorts.

NOTE: All connectors are keyed to only attach one way.
All use the correct screw size as indicated in the procedures.

2.1 Installing Motherboard Components

This section describes how to install components on to the mainboard, including CPUs, memory modules and add on cards.

2.1.1 Removing the Chassis Cover

Follow these instructions to remove GT24-B8236-IL chassis cover.

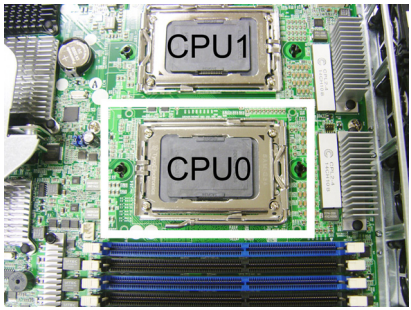
1. Unscrew the rear top cover on the back side as shown in the small diagram.

2. Slide the rear top cover out.

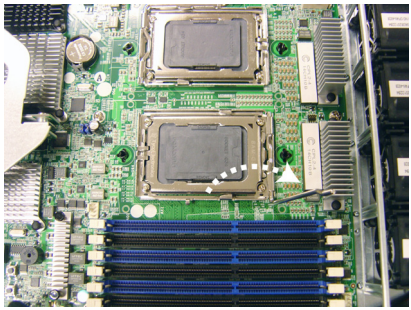
2.1.2 Installing the CPU and Heatsink

Follow the steps below on installing CPUs and CPU heatsinks.

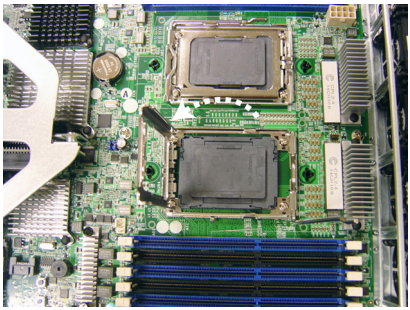
1. Locate the CPU socket.



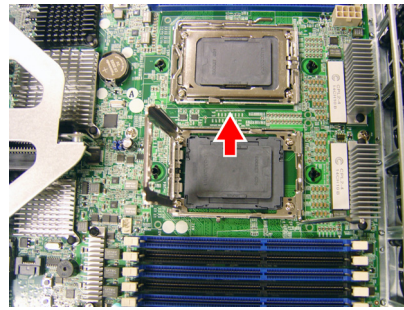
2. Pull the lever slightly away from the socket and then push it to a fully open position.

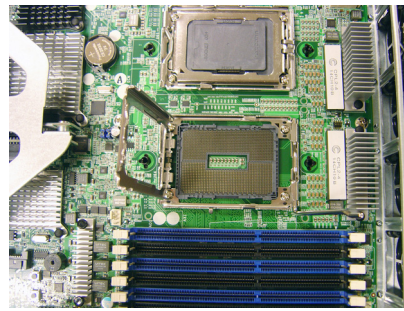


3. Push the CPU socket cover to a fully open position.

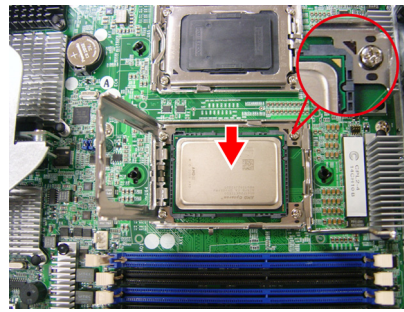


4. Take out the protection cap.

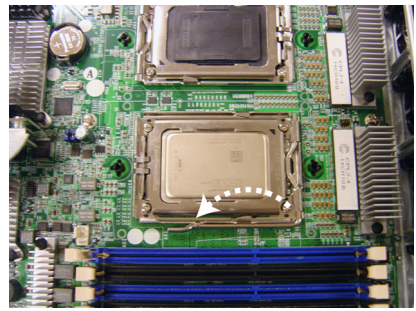




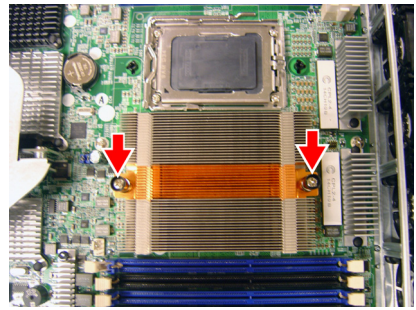
5. Place the CPU into the socket and make sure that the gold arrow is located in the right direction.



6. Close the CPU socket cover and press the lever down to secure the CPU.



7. Position the heatsink on top of the CPU and secure it with 2 screws.



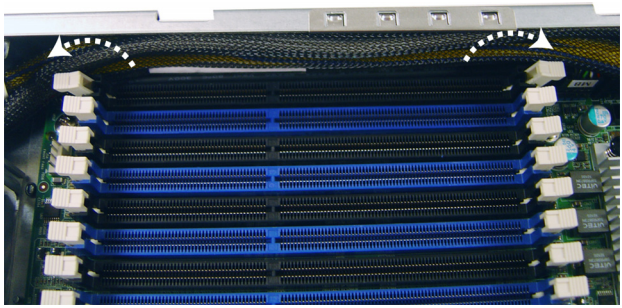
8. Repeat the procedures mentioned earlier to install the second CPU and heatsink.

2.1.3 Installing the Memory

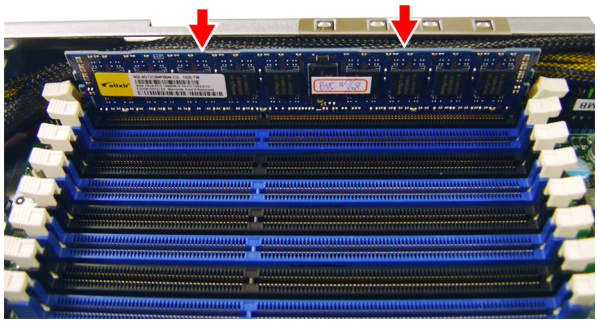
Follow these instructions to install the memory modules onto the motherboard.

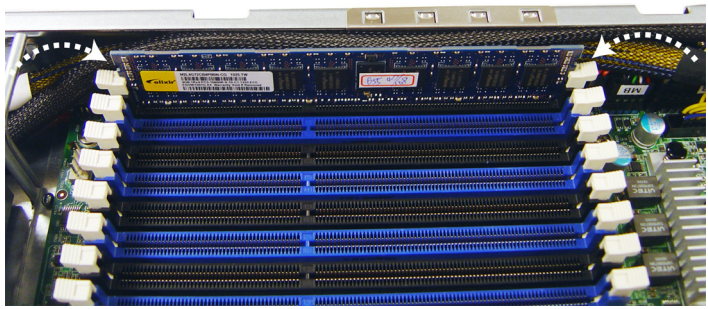
1. Locate the memory slots on the motherboard.

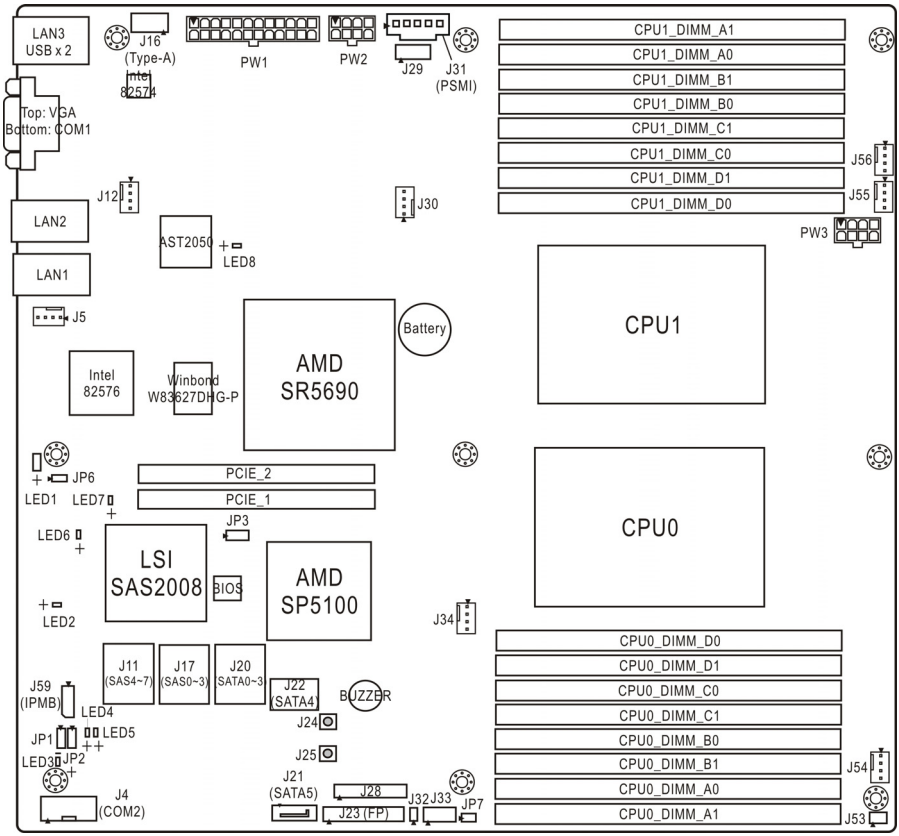
2. Press the memory slot locking levers in the direction of the arrows as shown in the following illustration.



3. Align the memory module with the slot. When inserted properly, the memory slot locking levers lock automatically onto the indentations at the ends of the module. Follow the recommended memory population table to install the other memory modules.






LAN3
USB x 2
J16
(Type-A)
PW1
PW2
J29
J31
(PSMI)
Intel
82574
Top: VGA
Bottom: COM1
J12
LAN2
LAN1
AST2050
LED8
J30
J5
Battery
Intel
82576
Winbond
W83627DHG-P
AMD
SR5690
CPU1_DIMM_A1
CPU1_DIMM_A0
CPU1_DIMM_B1
CPU1_DIMM_B0
CPU1_DIMM_C1
CPU1_DIMM_C0
CPU1_DIMM_D1
CPU1_DIMM_D0
J56
J55
PW3
CPU1
JP6
LED1
LED7
PCIE_2
PCIE_1
JP3
LED6
LSI
SAS2008
BIOS
AMD
SP5100
LED2
CPU0
J34
J11
(SAS4~7)
J17
(SAS0~3)
J20
(SATA0~3)
J22
(SATA4)
BUZZER
J59
(IPMB)
LED4
J24
JP1
LED5
LED3
JP2
J25
J21
(SATA5)
J28
J23 (FP)
J32
J33
JP7
J4
(COM2)
CPU0_DIMM_D0
CPU0_DIMM_D1
CPU0_DIMM_C0
CPU0_DIMM_C1
CPU0_DIMM_B0
CPU0_DIMM_B1
CPU0_DIMM_A0
CPU0_DIMM_A1
J54
J53

Recommended Memory Population Table

	Single CPU Installed (CPU0 only)						Dual CPU installed (CPU0 and CPU1)										
Quantity of memory installed	**1**	**2**	**3**	**4**	**6**	**8**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**10**	**12**	**14**	**16**
CPU0_DIMM(1)D0						√									√	√	√
CPU0_DIMM(2)D1				√	√	√						√	√	√	√	√	√
CPU0_DIMM(3)C0						√									√	√	√
CPU0_DIMM(4)C1			√	√	√	√				√	√	√	√	√	√	√	√
CPU0_DIMM(5)B0					√	√								√	√	√	√
CPU0_DIMM(6)B1		√	√	√	√	√		√	√	√	√	√	√	√	√	√	√
CPU0_DIMM(7)A0					√	√								√	√	√	√
CPU0_DIMM(8)A1	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
CPU1_DIMM(9)D0																	√
CPU1_DIMM(10)D1													√	√	√	√	√
CPU1_DIMM(11)C0																	√
CPU1_DIMM(12)C1											√	√	√	√	√	√	√
CPU1_DIMM(13)B0																√	√
CPU1_DIMM(14)B1									√	√	√	√	√	√	√	√	√
CPU1_DIMM(15)A0																√	√
CPU1_DIMM(16)A1							√	√	√	√	√	√	√	√	√	√	√

NOTE:

1. √ indicates a populated DIMM slot.
2. Paired memory installation for Max performance.
3. Populate the same DIMM type in each channel, specifically
   - Use the same DIMM size
   - Use the same # of ranks per DIMM
4. Dual-rank DIMMs are recommended over single-rank DIMMs
5. Un-buffered DIMM can offer slightly better performance than registerd DIMM if populating only a single DIMM per channel
6. We don't suggest other memory installation.
7. AMD 6100 series CPU doesn't support Quad-ranks U-DIMM

U-DIMM Module Support

DDR3 Speed/Voltage			DDR3 Rank Configuration	
1.25v	1.35v	1.5v	DIMM1 (A1, B1, C1, D1)	DIMM0 (A0, B0, C0, D0)
800MHz	800MHz	800MHz	SR and DR	n/a
800MHz	800MHz	800MHz	SR and DR	SR and DR
1066MHz	1066MHz	1066MHz	SR and DR	n/a
1066MHz	1066MHz	1066MHz	SR and DR	SR and DR
1333MHz	n/a	n/a	SR and DR	n/a
1333MHz	n/a	n/a	SR	SR
n/a	1333MHz	1333MHz	SR and DR	n/a
n/a	1333MHz	1333MHz	SR and DR	SR and DR
n/a	n/a	1600MHz	SR and DR	n/a
n/a	n/a	1600MHz	SR	SR

Notes:

- U-DIMM can support up to 4GB sized DIMM's
- Maximum of 8GB per channel
- SR and DR UDDR3 module support **only**
- x8 DRAM module support **only**
- SR and DR 1.25v Memory MAX speed of 1333MHz in a dual channel configuration
- SR and DR 1.35v Memory MAX speed of 1333MHz in a dual channel configuration
- SR and DR 1.5v Memory MAX speed of 1600MHz in a dual channel configuration

R-DIMM Module Support

DDR3 Speed/Voltage			DDR3 Rank Configuration	
1.25v	1.35v	1.5v	DIMM1 (A1, B1, C1, D1)	DIMM0 (A0, B0, C0, D0)
800MHz	800MHz	800MHz	SR,DR and QR	n/a
800MHz	800MHz	800MHz	SR,DR and QR	SR,DR and QR
1066MHz	1066MHz	n/a	SR,DR and QR	n/a
1066MHz	1066MHz	n/a	SR and DR	SR and DR
n/a	n/a	1066MHz	SR,DR and QR	n/a
n/a	n/a	1066MHz	SR,DR and QR	SR,DR and QR
1333MHz	n/a	n/a	SR and DR	n/a
1333MHz	n/a	n/a	SR	SR
n/a	1333MHz	n/a	SR and DR	n/a
n/a	1333MHz	n/a	SR and DR	SR and DR
n/a	n/a	1333MHz	SR,DR and QR	n/a
n/a	n/a	1333MHz	SR and DR	SR and DR
n/a	n/a	1600MHz	SR and DR	n/a
n/a	n/a	1600MHz	SR	SR

Notes:

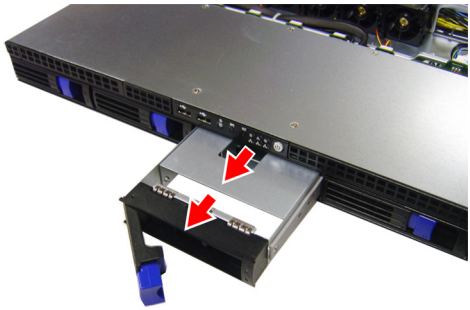
- RDIMM can support up to 16GB sized DIMM's
- SR and DR Memory has a MAX amount of 16GB per channel
- SR and DR 1.25v Memory MAX speed of 1333MHz in a dual channel configuration
- SR and DR 1.35v Memory MAX speed of 1333MHz in a dual channel configuration
- SR and DR 1.5v Memory MAX speed of 1600MHz in a dual channel configuration
- QR Memory has a MAX amount of 32GB per channel
- QR 1.25v Memory MAX speed of 1066MHz in a dual channel configuration
- QR 1.35v Memory MAX speed of 1066MHz in a dual channel configuration
- QR 1.5v Memory MAX speed of 1333MHz in a dual channel configuration

2.1.4 Installing Hard Drives

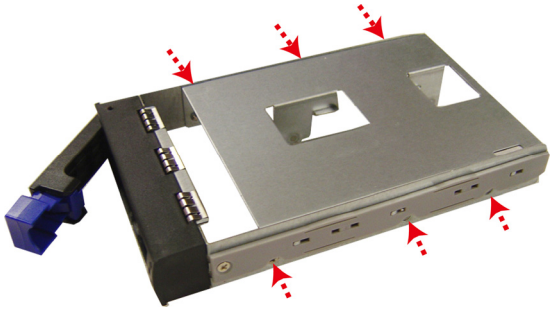
The GT24-B8236-IL supports four 3.5” hard drives. Follow these instructions to install a hard drive.

1. Press the locking lever latch and pull the locking lever open.

2. Slide the HDD tray out.

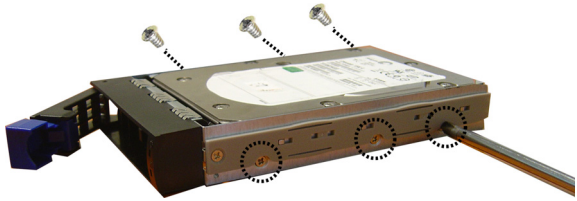


3. Remove the 6 screws.

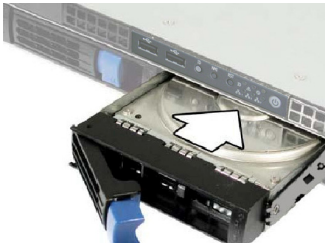


4. Place a hard drive into the drive tray.

5. Use 6 HDD screws to secure the HDD.



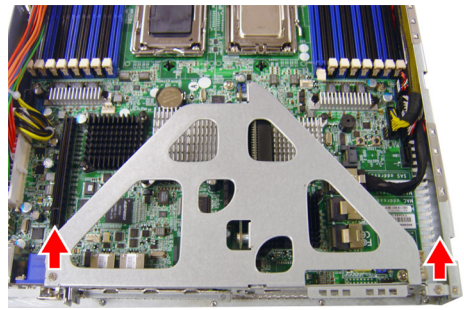
6. Reinsert the HDD tray into the chassis and press the locking lever to secure the tray.



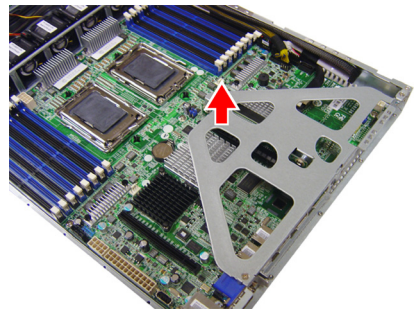
2.1.5 Installing the PCI-E Cards

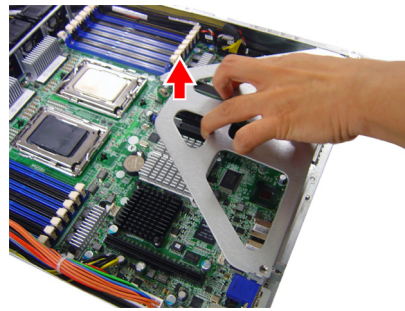
The GT24-B8236-IL supports one PCI-E expansion slot. Follow these instructions to install the PCI-E card.

1. Unscrew the riser card bracket from the chassis.

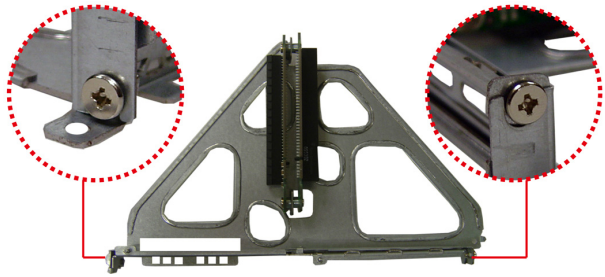


2. Lift the front edge of the riser card bracket first before taking it out from the chassis.

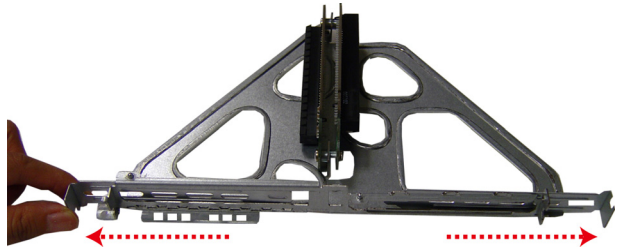




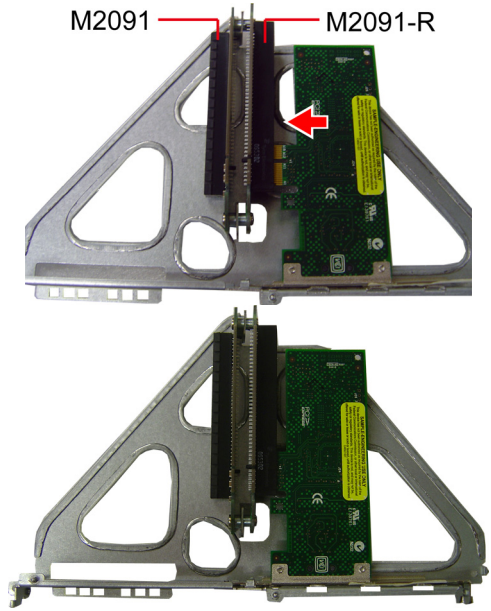
3. Release the screws on both sides of the riser card bracket as shown.

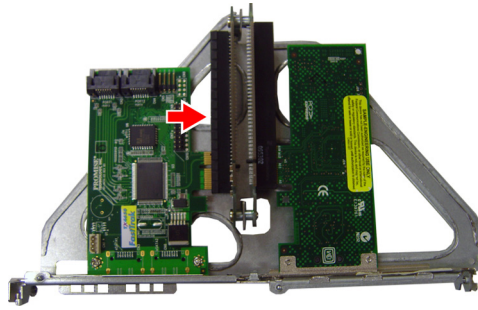


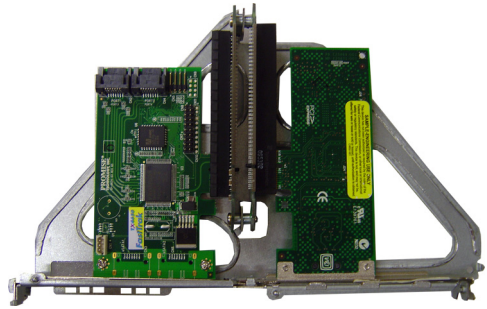
4. Remove the PCI-E cover shields from the chassis.



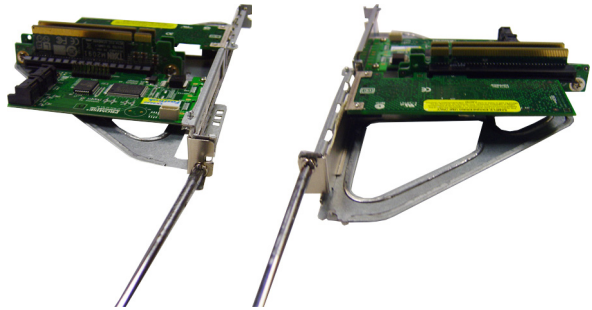
5. Insert the PCI-E card in the direction of arrows as shown.



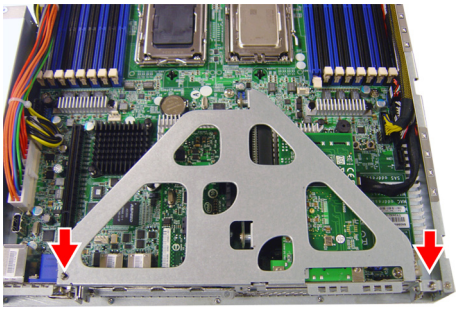




6. Screw the PCI-E cards firmly to the riser card bracket.



7. Secure the riser card bracket to the chassis with two screws.



8. The installation of PCI-E expansion card is now complete.

2.2 Rack Mounting

After installing the necessary components, the TYAN GT24-B8236-IL can be mounted in a rack using the supplied rack mounting kit.

Rack mounting kit

- Sliding Rails x 2
- Sliding Brackets x 4 (Front x 2, Rear x 2)
- Mounting Ears (including screws) x 2
- Screws Kit x 1
- Mounting Brackets x 4

2.2.1 Installing the Server in a Rack

Follow these instructions to mount the TYAN GT24-B8236-IL into an industry standard 19" rack.

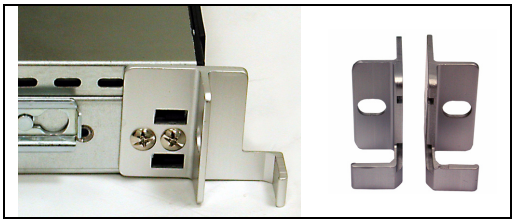
NOTE: Before mounting the TYAN GT24-B8236-IL in a rack, ensure that all internal components have been installed and that the unit has been fully tested.

Screws List

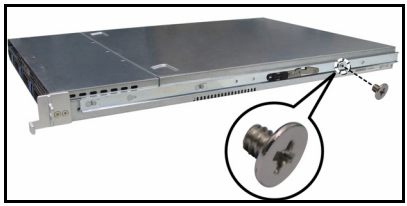
	No.	Screw	Size	Quantity
Rail Kit	A		M4-4L	18
	B		M5-8L	10
	C		M5-15	4
Mounting Ear Kit	D		#6-32 L5.3	4

2.2.2 Installing the inner Rails to the Chassis

1. Screw the mounting ear to each side of TYAN GT24-B8236-IL as shown using two screws of #6-32 L5.3(D) from the supplied screws kit.

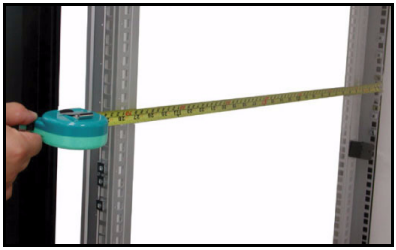


2. Draw out the inner rails from rail assembly. Install inner rails to left and right sides of chassis using 1 M4-4L(A) screw for each side.

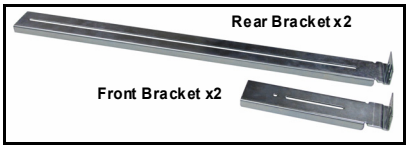


2.2.3 Installing the Outer Rails to the Rack

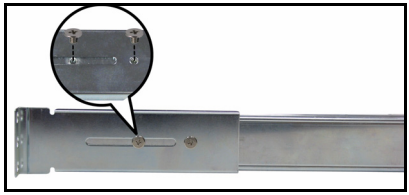
1. Measure the distance between inner side of the front and rear mounting brackets in the rack.



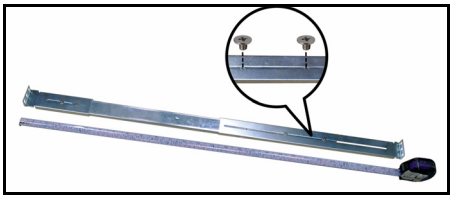
2. Locate the front and rear brackets.



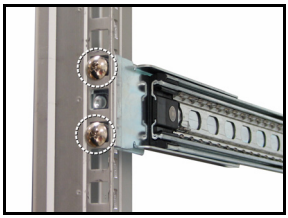
3. Secure the front bracket to outer rail with 2 M4-4L(A) screws.



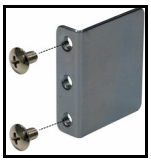
4. Reserve the distance same as in Step 2 on rear bracket. Secure the rear bracket to outer rail with 2 M4-4L(A) screws.



5. Secure the outer rail to the rack using 2 brackets and 4 M5-8L(B) screws for each side. Secure the mounting brackets from inside, not outside, of the rack.

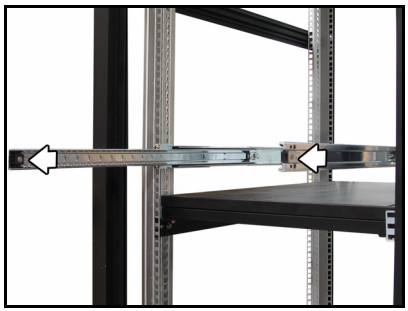


Mounting Bracket

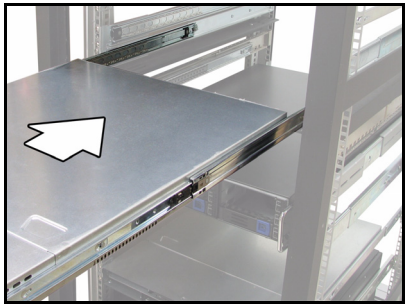


2.2.4 Rack mounting the Server

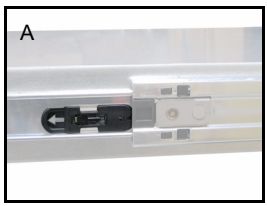
1. Draw out the middle rail to the latch position.

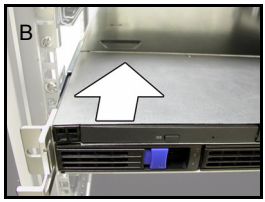


2. Lift the chassis and then insert the inner slide rails into the middle rails.

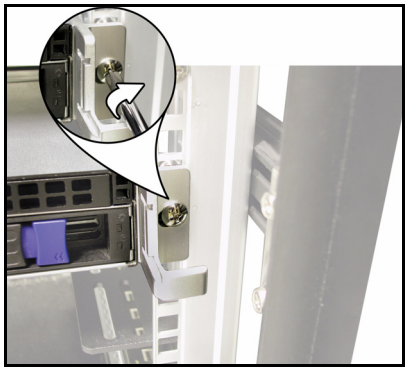


3. Push the chassis in and press the latch key (A). Then push the whole system into the rack (B)





4. Secure the mounting ears of chassis to the rack with 2 M5-15L(C) screws.



NOTE: To avoid injury, it is strongly recommended that two people lift the TYAN GT24-B8236-IL into the place while a third person screws it to the rack.

NOTE

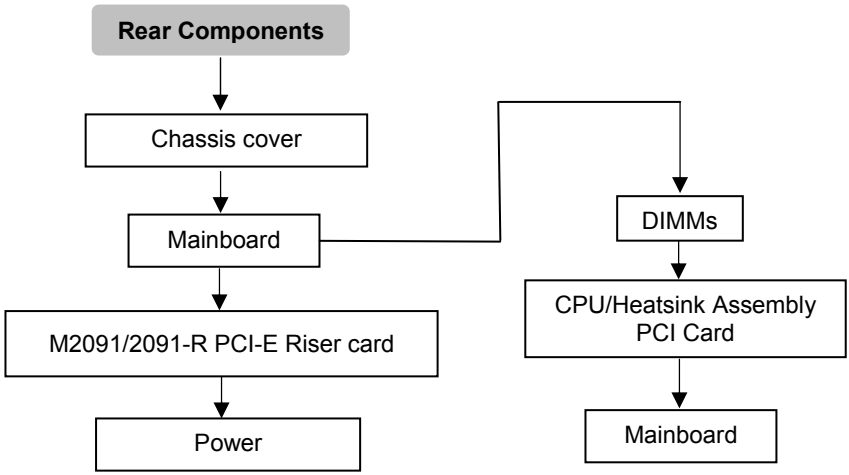
Chapter 3: Replacing Pre-Installed Components

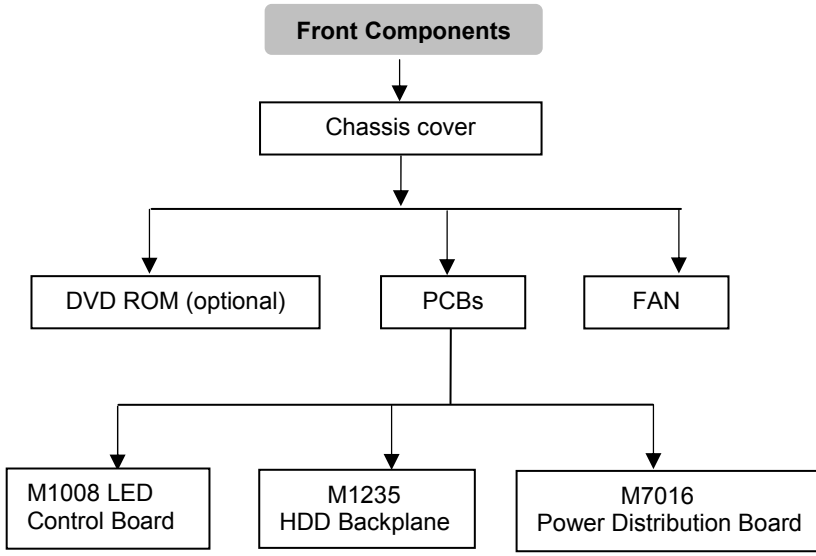
3.1 Introduction

This chapter explains how to replace the pre-installed components, including the Motherboard, M1008 LED control board, M1235 HDD Backplane, M2091/M2091-R PCI-E Riser card, System fan, ODD drive, Power supply unit etc.

3.2 Disassembly Flowchart

The following flowchart outlines the disassembly procedure.




Front Components
Chassis cover
DVD ROM (optional)
PCBs
FAN
M1008 LED
Control Board
M1235
HDD Backplane
M7016
Power Distribution Board

3.3 Removing the Cover

Before replacing any parts you must remove the chassis cover first.
Follow **Chapter 2.1.1** to remove the cover of the GT24-B8236-IL.

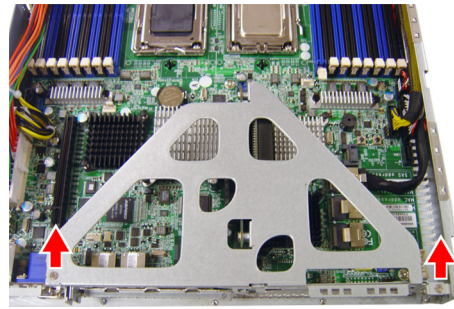
3.4 Replacing Motherboard Components

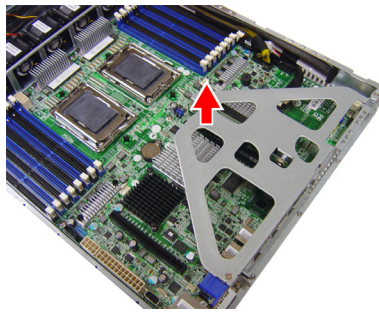
Follow these instructions to replace motherboard components, including the motherboard.

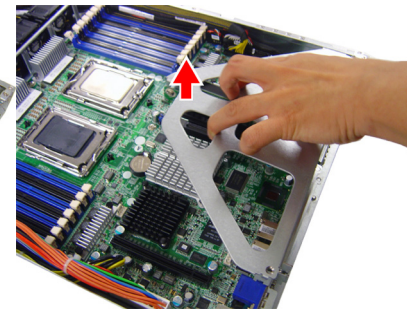
3.4.1 Replacing Expansion Card

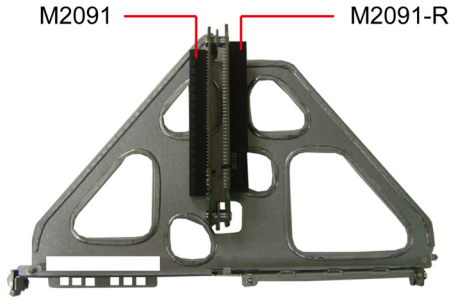
The GT24-B8236-IL has **two preinstalled PCI-E ×16** riser cards,
Follow the instructions below to disassemble the M2091/M2091-R PCI-E riser cards.

1. Unscrew to remove the riser card bracket from the chassis.

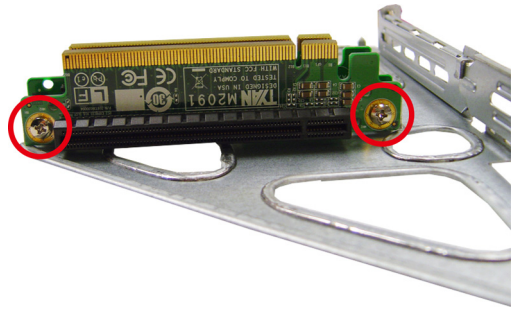




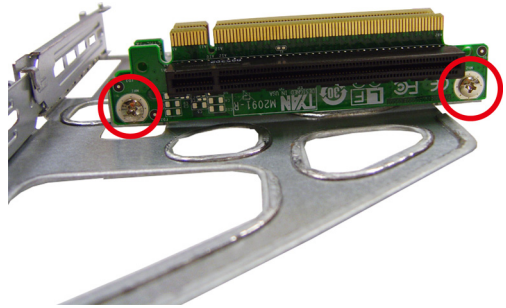




2. Unscrew the M2091 riser card.



3. Unscrew the M2091-R riser card.

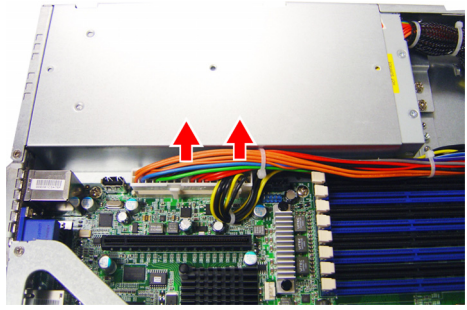


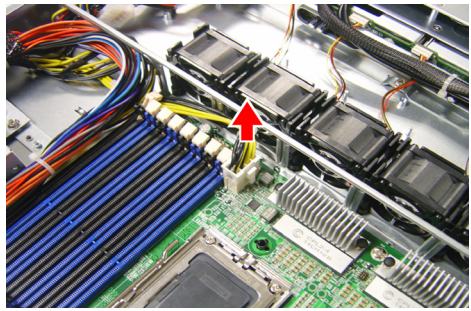
4. Install a new riser card onto the bracket following the procedures mentioned earlier in reverse order.

3.4.2 Disconnecting All Motherboard Cables

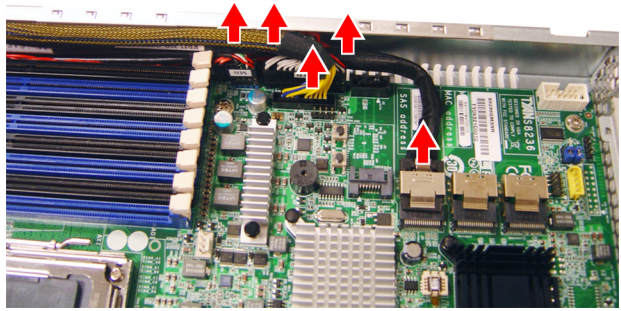
Before replacing the motherboard or certain components, remove cables connected to the motherboard. Follow these instructions to remove all motherboard cables.

1. Disconnect all power cables.





2. Disconnect all other cables.

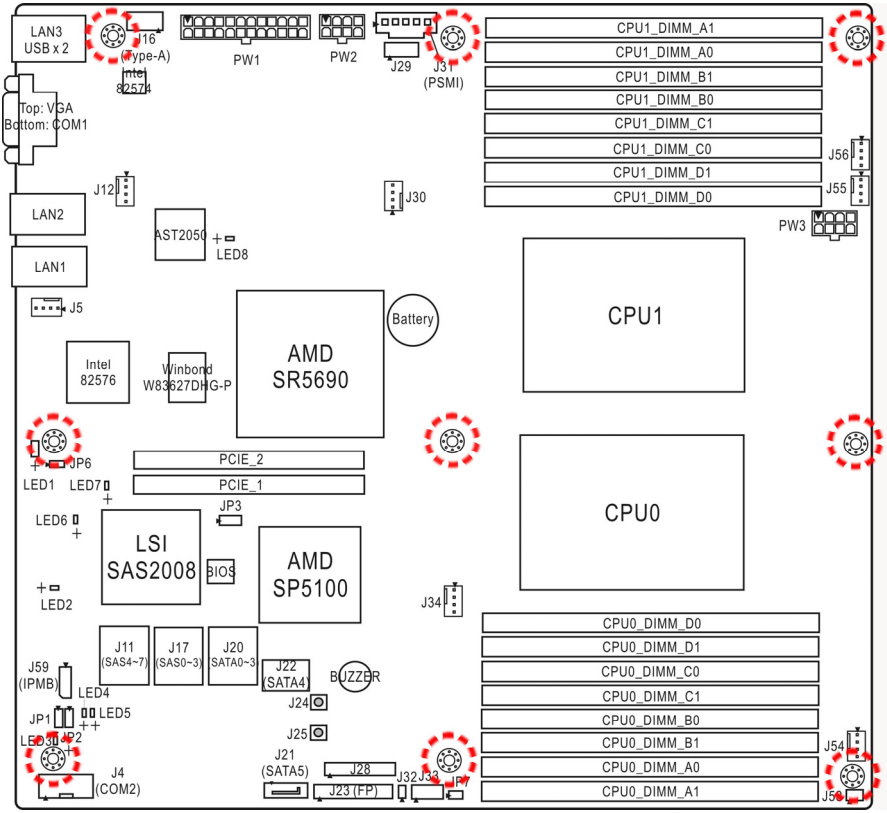


3.4.3 Removing the Motherboard

After removing all of the aforementioned cables, follow the instructions below to remove the motherboard from the chassis.

1. Remove the heatsinks and processors if installed.

2. Remove the nine screws securing the motherboard to the chassis.

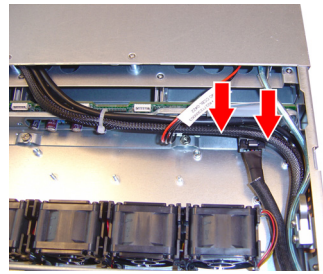


3. Carefully lift the motherboard from the chassis.

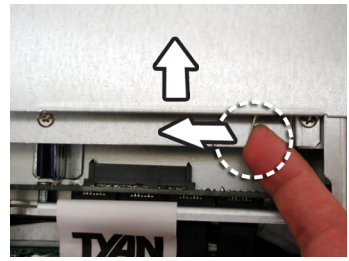
3.5 Replacing the Slim DVD-ROM (optional)

Follow these instructions to replace the slim DVD-ROM.

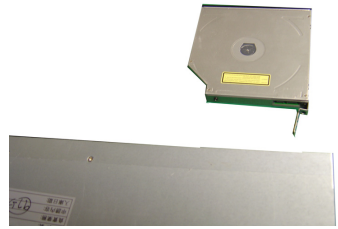
1. Remove the power and data cable from the slim DVD-ROM adapter.



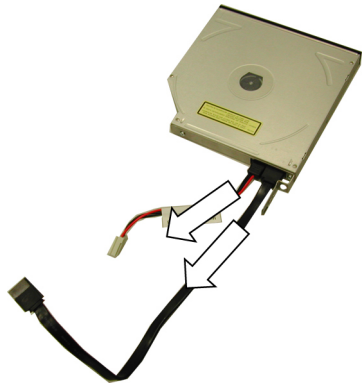
2. Press the tab in the directions as shown to release the DVD-ROM drive.



3. The DVD-ROM drive will be freed from the drive bay after pressing the tab.



4. Disconnect the power and data cables from the DVD-ROM drive.



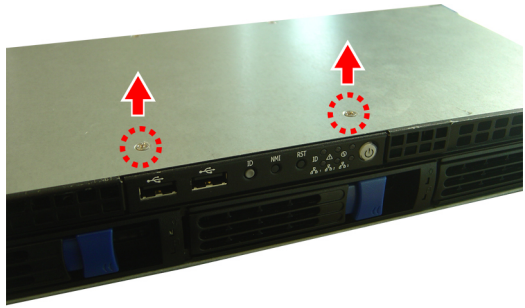
5. Remove two screws that secure DVD-ROM drive to the bracket.

6. Replace the DVD-ROM drive.
7. Secure DVD-ROM to the bracket using two screws. Then replace the unit into the drive bay and connect the DVD-ROM power and data cables.

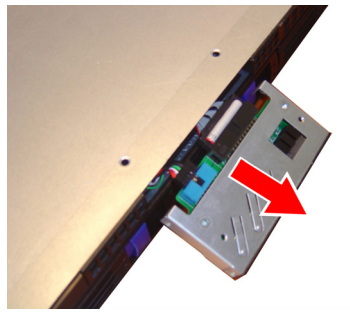
3.6 Replacing the LED Control Board

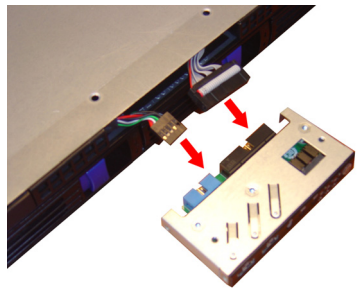
Follow these instructions to replace the M1008 LED control board.

1. Remove the two screws securing the LED control board unit to the chassis.

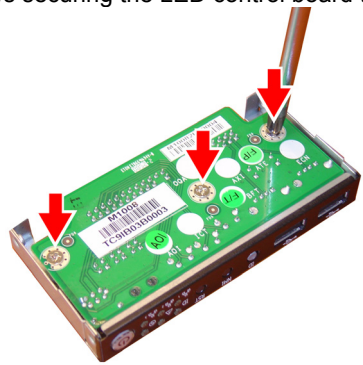


2. Push the LED control board unit out and unplug the cables from the connectors at the back of the unit.

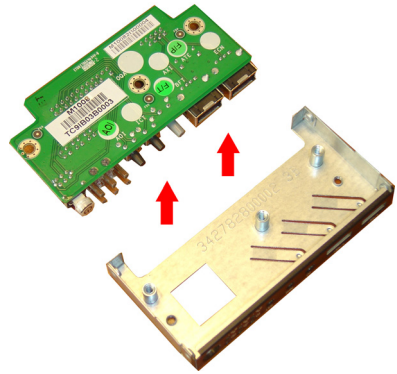




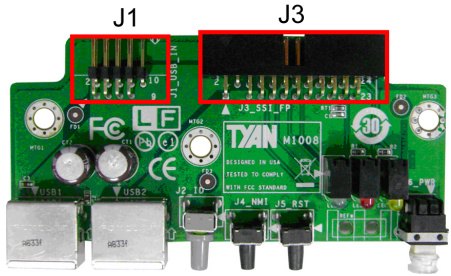
3. Remove three screws securing the LED control board to the bracket.



4. Lift the LED control board free from the chassis. After replacing the LED control board, insert the unit into the chassis following the above procedures in reverse



3.6.1 M1008 LED Control Board Features



M1008 Front Panel Board (FPB) to S8236			
	M1008	**Connect to**	**S8236**
Control Cable	J3	→	J23+J32
USB Cable	J1	→	J33

3.6.2 M1008 LED Control Board Connector Pin Definition

J1: USB Header

Definition	Pin	Pin	Definition
VCC	1	2	VCC
USB1-	3	4	USB2-
USB1+	5	6	USB2+
GND	7	8	GND
Key	9	10	GND

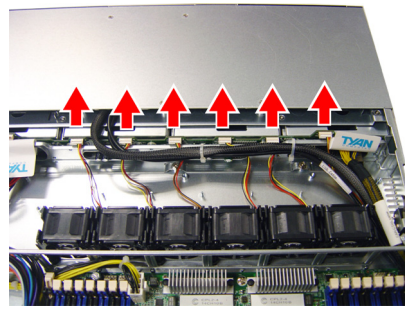
J3: SSI

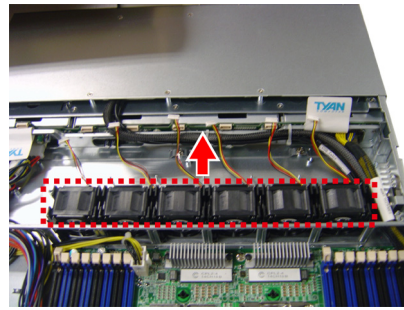
Definition	Pin	Pin	Definition
PW_LED+	1	2	VCC
KEY	3	4	ID_LED+
PW_LED-	5	6	ID_LED-
HD/LAN3 LED+	7	8	SYS_FAULT1-
HD/LAN3 LED-	9	10	SYS_FAULT2-
PWR_SW+	11	12	LAN1_LED+
PWR_SW-	13	14	LAN1_LED-
RESET+	15	16	ICH_SMBDAT
RESET-	17	18	ICH_SMBCLK
ID_SW+	19	20	INTRU#
TEMP_SENSER	21	22	LAN2_LED+
EXT_INT	23	24	LAN2_LED-

3.7 Replacing the System Fan

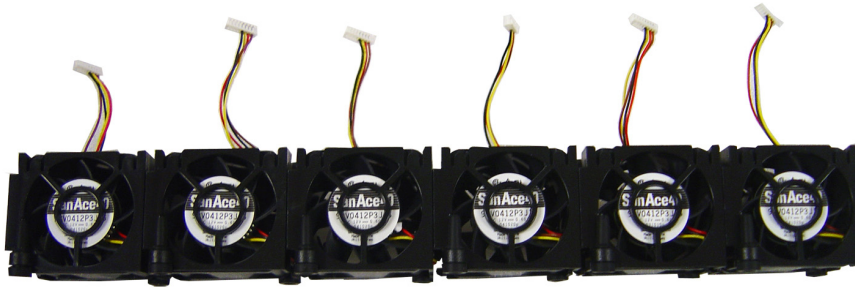
Follow these instructions to replace the cooling fans in your system.

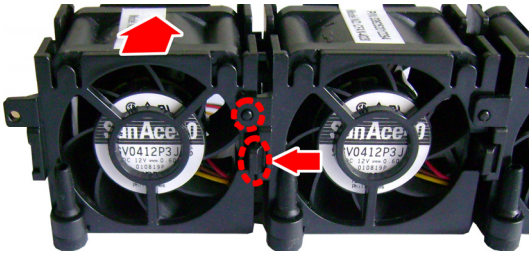
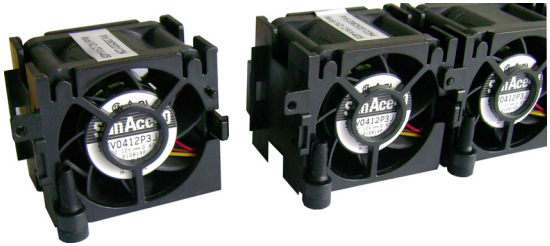
1. Locate the cooling fans in your system.
2. Unplug the cables connected to the mainboard and lift the fan unit up from the chassis.



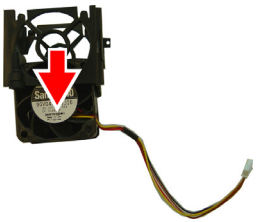
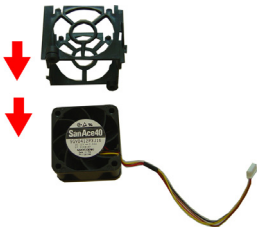
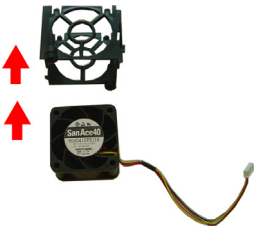
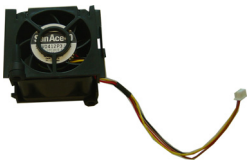


3. Follow Step A & B to unlock the fans.

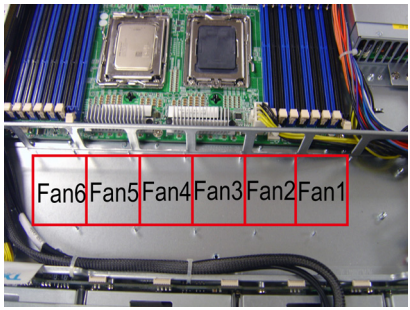


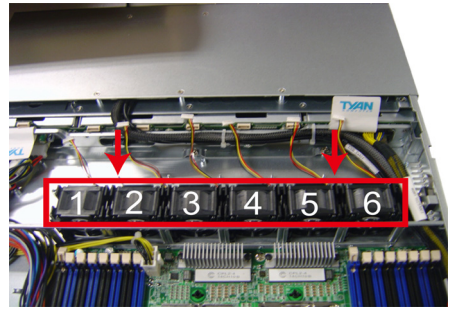
40x28mm Fan Step A	
Step B	

4. Follow Step C & D to take out the old fan and replace with a new one.

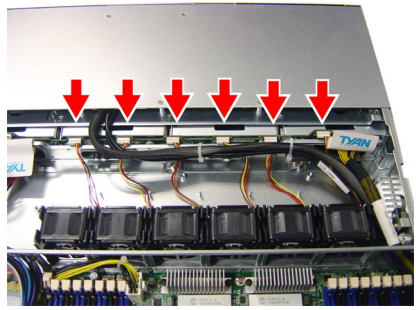
40x28mm Fan Step C		
Step D		

5. After replacing the new fans, follow Step A & B in reverse order to lock the fans. Reinstall the fans into the chassis.





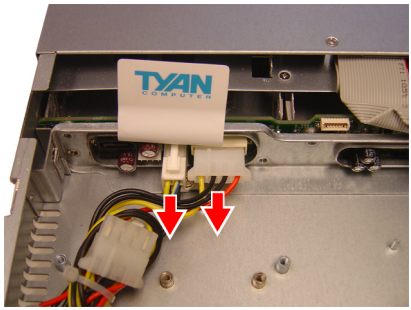
6. Connect the fan cables to the backplane fan connectors.



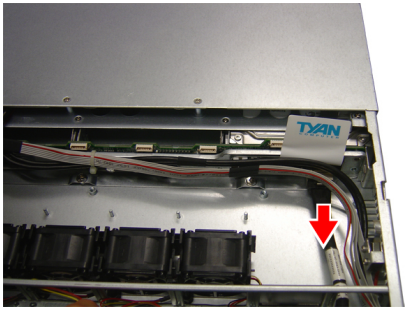
System Fan to M1235		
System Fan	**Connect to**	**M1235**
Fan1	→	Fan1
Fan2	→	Fan2
Fan3	→	Fan3
Fan4	→	Fan4
Fan5	→	Fan5
Fan6	→	Fan6

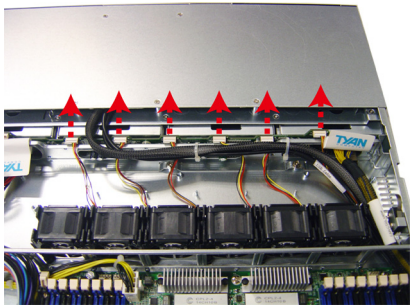
3.8 Replacing the M1235 HDD Backplane

1. Disconnect the power cables connected to the HDD Backplane.

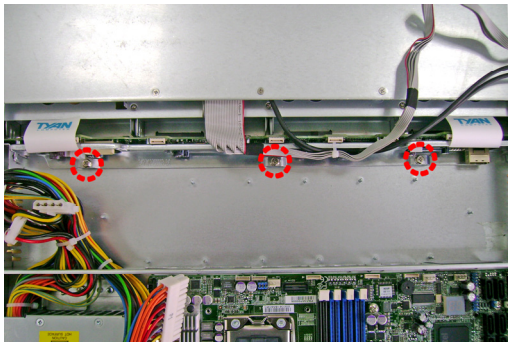


2. Disconnect the Mini SAS cable and the fan cables.

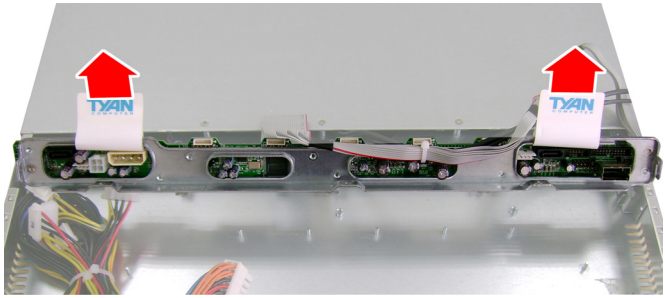




3. Remove the three screws securing the bracket to the chassis base.



4. Lift the bracket up from the chassis.



5. Unscrew the HDD Backplane from the bracket.

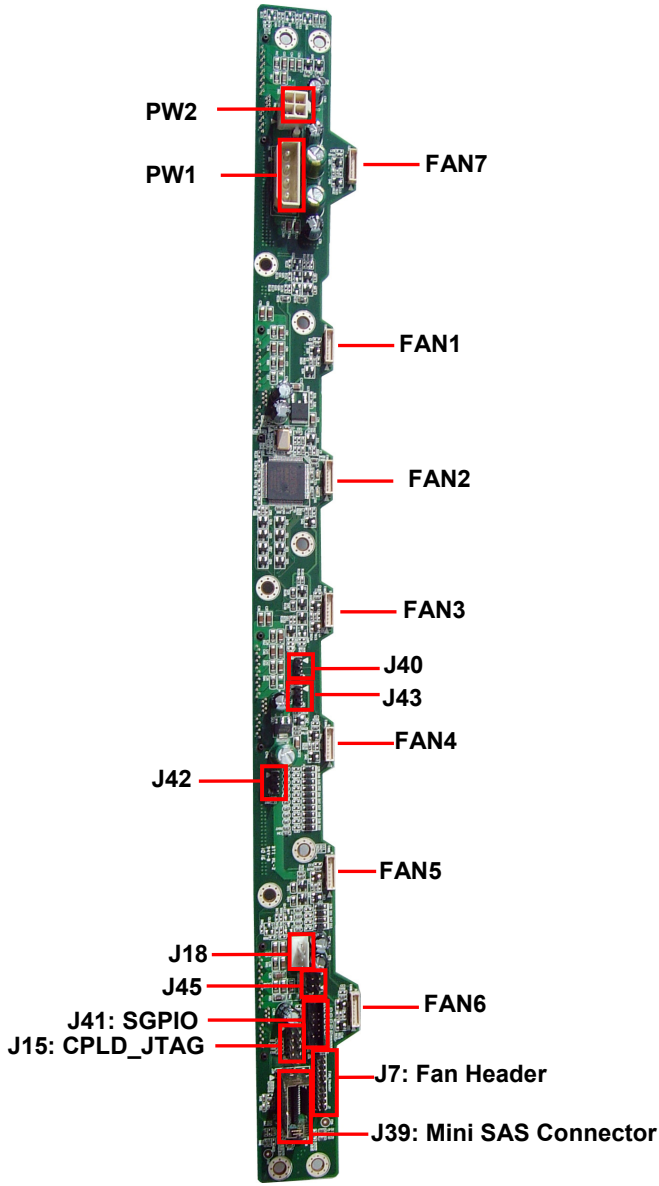
6. Replace a new HDD Backplane and reinstall it into the chassis following the steps mentioned earlier in reverse.

M1235 SATA/SAS Backplane to S8236WGM3NR			
Cable	**SATA/SAS BP Board**	**Connect to**	**S8236 MB**
Mini-SAS Cable	J39	→	J17 (SAS 0 ~ 3)

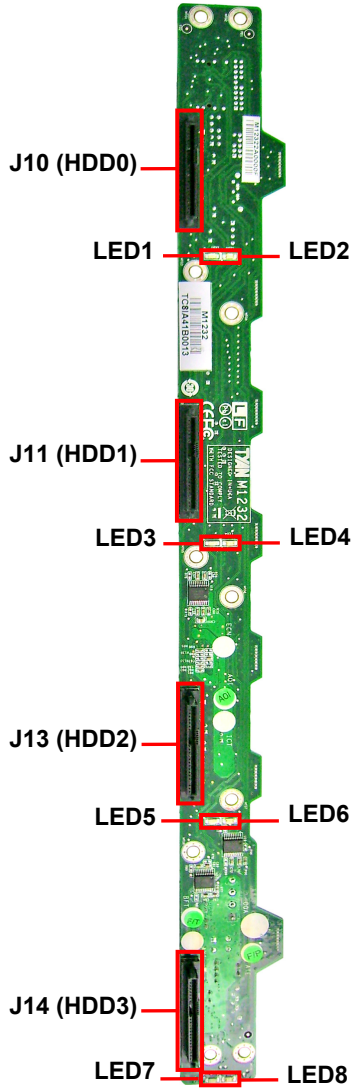
M1235 SATA/SAS Backplane to S8236GM3NR			
Cable	**SATA/SAS BP Board**	**Connect to**	**S8236 MB**
Mini-SAS Cable	J39	→	J20 (SATA 0 ~ 3)

3.8.1 M1235 HDD Backplane Features

M1235 Front View



M1235 Rear View



3.8.2 M1235 Connector Pin Definitions

PW1

Pin	1	2	3	4
Definition	+12V	GND	GND	+5V

PW2

Definition	Pin	Pin	Definition
GND	1	2	GND
+12V	3	4	+12V

J15 SGPIO JTAG

Definition	Pin	Pin	Definition
TCK	1	2	GND
TDO	3	4	3.3V
TMS	5	6	NI
NI	7	8	KEY
TDI	9	10	GND

J41 SGPIO for IOH

Definition	Pin	Pin	Definition
SM_CLK	1	2	SGPIO_0
SM_DATA	3	4	SGPIO_1
GND	5	6	SGPIO_2
KEY	7	8	SGPIO_3
NI	9	10	HD_ERR_LED

J18 Slim CDROM power

Pin	1	2	3	4
Definition	+12V	GND	GND	+5V

J40 PWM select for system FAN3

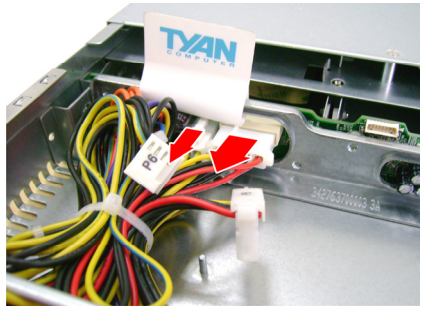
Pin	Definition
1	CPU_PWM
2	PWM_12(FAN3)
3	CPU_PWM2

Note：
Pin 1-2 chose by CPU_PWM (Default)
Pin 2-3 chose by CPU_PWM2

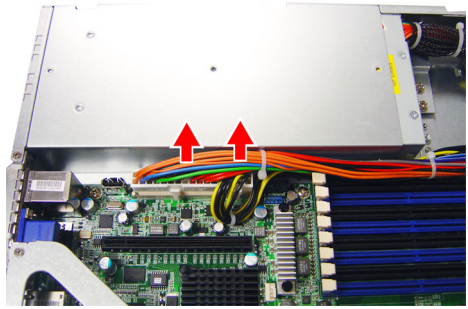
3.9 Replacing the Power Supply

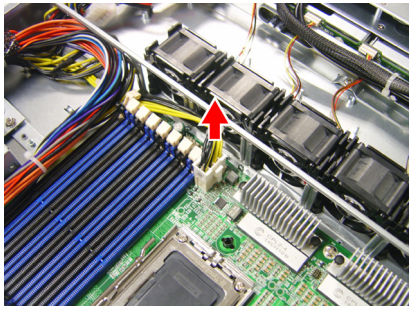
B8236G24V4H-IL / B8236G24W4H-IL

1. Disconnect the power cables from the motherboard and the M1235.



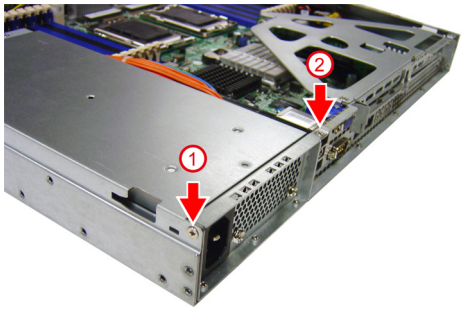
PSU to M1235 Backplane (BP) Board		
PSU	**Connect to**	**M1235**
2x2P PWR P3	→	PW2
B4P P4	→	PW1

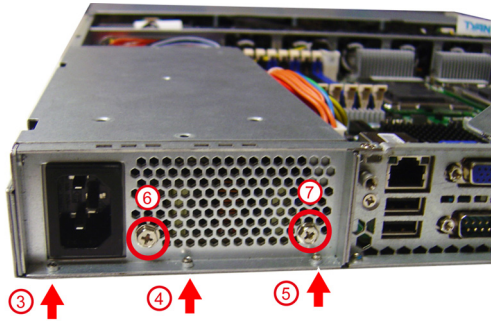


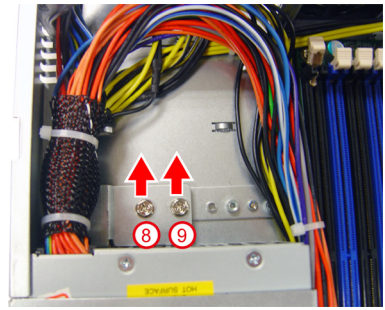


PSU to S8236-IL MB		
Power Supply Unit (PSU)	**Connect to**	**S8236-IL**
2x12P PWR P1	→	J18
2x4P PWR P2	→	J26
2x4P PWR P7	→	J52
PSMI P8	→	J31

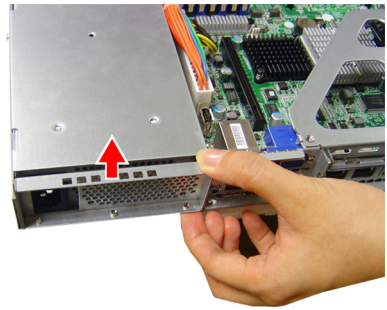
2. Remove nine (9) screws that secure the power supply to the chassis.

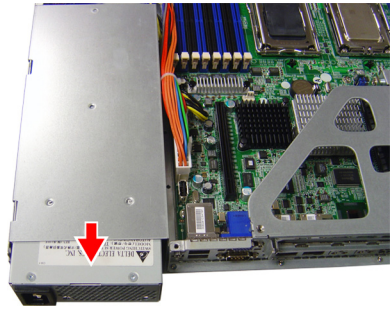






3. Remove the power supply bracket and then slide out the whole power supply unit.



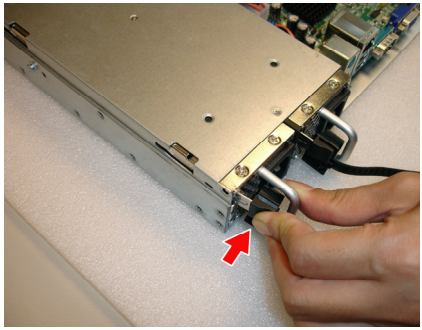
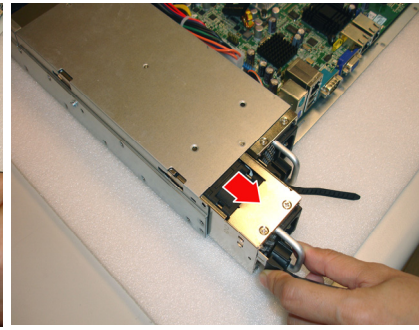


4. Install a new power supply unit following the steps in reverse.

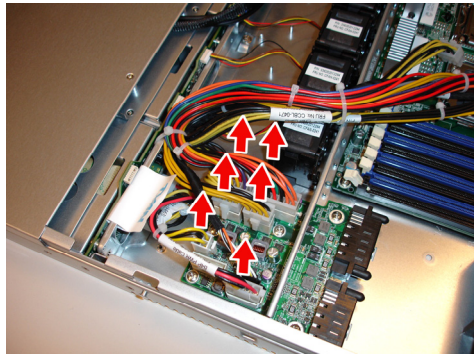
3.9.1 Replacing the M7016 Power Distribution Board

B8236G24W4HR-IL

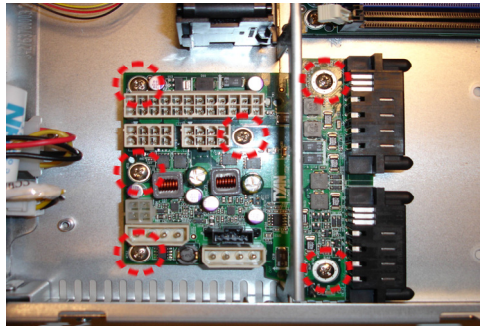
1. Press the latch to pull the two power supplies out.

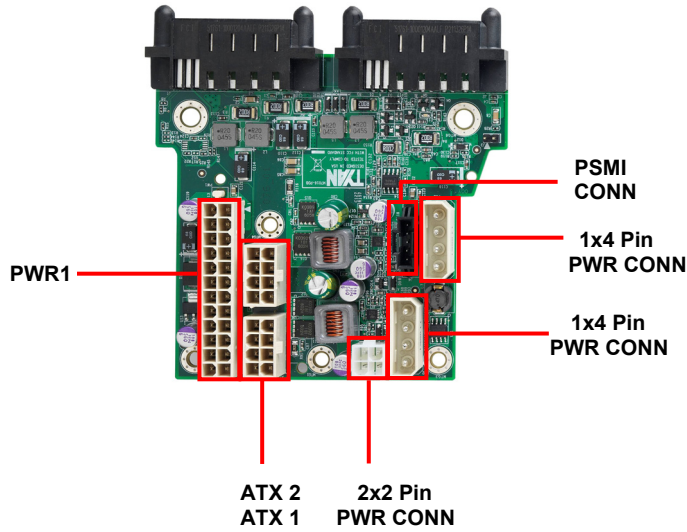
2. Disconnect the cables from the M7016 power distribution board.



3. Remove six (6) screws that secure the power distribution board to the chassis.



3.9.2 M7016 Power Distribution Board Feature



3.9.3 M7016 Power Distribution Board Pin Definitions

ATX1

Definition	Pin	Pin	Definition
GND	1	2	GND
GND	3	4	GND
+12V2	5	6	+12V2
+12V3b	7	8	+12V3b

ATX2

Definition	Pin	Pin	Definition
GND	1	2	GND
GND	3	4	GND
+12V1	5	6	+12V1
+12V3a	7	8	+12V3a

PW1

Definition	Pin	Pin	Definition
3.3V	1	2	3.3V
GND	3	4	+5V
GND	5	6	+5V
GND	7	8	Power Good
5VSB	9	10	+12V
+12V	11	12	3.3V
3.3V	13	14	+12V
GND	15	16	PS_ON
GND	17	18	GND
GND	19	20	Reset
+5V	21	22	+5V
+5V	23	24	GND

PW2/PW3

Definition	Pin	Pin	Definition
+12V	1	2	GND
GND	3	4	+5V

PW4

Definition	Pin	Pin	Definition
GND	1	2	GND
+12V	3	4	+12V

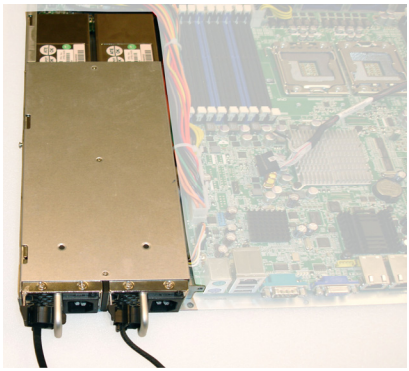
J4: PSMI Connector

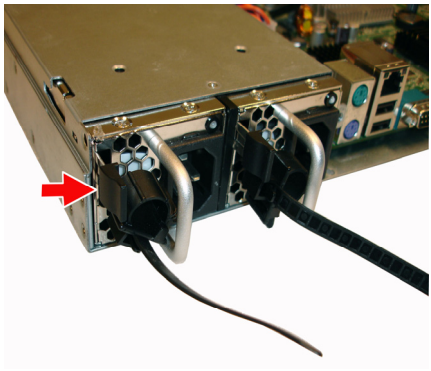
Pin	1	2	3	4	5
Definition	SMBUS_CLK	SMBUS_DATA	NC	NC	GND

3.10 Replacing the Redundant Power Supply

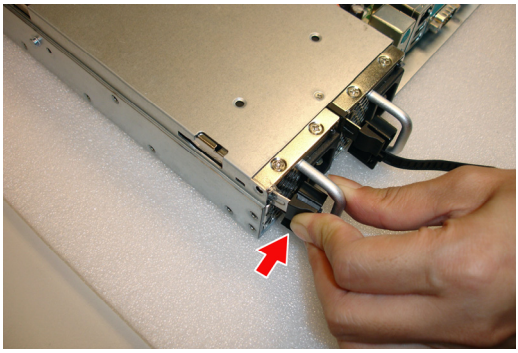
B8236G24W4HR-IL

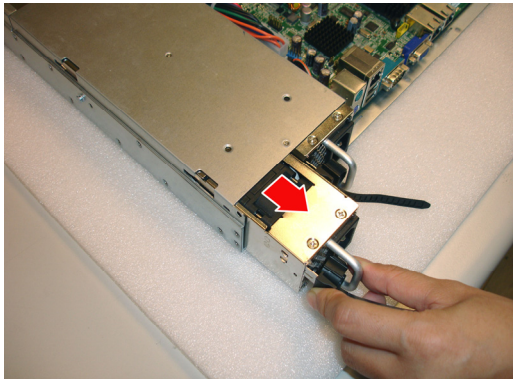
1. Located the power supply cage.



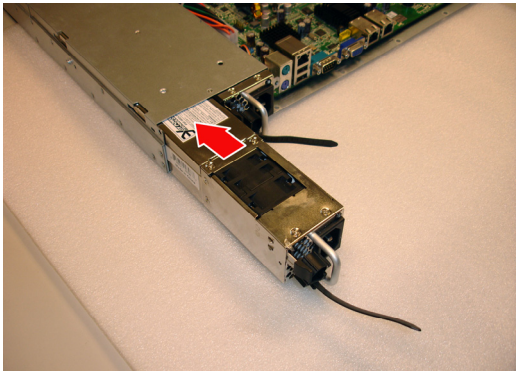


2. Press the latch to pull the power supply out.





3. After replacing a new power supply, press and hold the latch to push the power supply back into the chassis.



NOTE

Appendix I: Cable Connection Tables

1. System Fan Connector

System Fan to M1235 Backplane (BP) Board		
System Fan	**Connect to**	**M1235**
Fan1	→	FAN1
Fan2	→	FAN2
Fan3	→	FAN3
Fan4	→	FAN4
Fan5	→	FAN5
Fan6	→	FAN6

2. SATA HDD Cable

M1235 SATA/SAS Backplane (BP) Board to S8236 MB			
Cable	**M1235**	**Connect to**	**S8236-IL MB**
Mini-SAS Cable	J39	→	J20
Fan cable	J7	→	J28

3. Control Cable and USB Cable

M1008 LED Control Board to S8236-IL MB			
	M1008	**Connect to**	**S8236-IL MB**
Control Cable	J3	→	J23+J32
USB Cable	J1	→	J33

4. Power Supply Cables

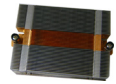
M7016PDB to S8236-IL MB		
M7016	**Connect to**	**S8236-IL MB**
PDB ATX1	**2X4P PWR cable-1 ⟶**	**J52**
PDB ATX2	**2X4P PWR cable-2 ⟶**	**J26**
PDB PW1	**2X12P PWR cable ⟶**	**J18**
PDB J14	**PSMI cable ⟶**	**J31**

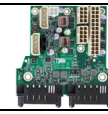
M7016PDB to M1235 Backplane (BP) Board		
M7016	**Connect to**	**M1235**
PDB PW3	**B4P cable⟶**	**BP PW1**
PDB PW4	**2X2P⟶**	**BP PW2**

5. Chassis Intrusion Cable

Chassis Intrusion Cable		
Chassis	**Connect to**	**S8236-IL MB**
Intrusion Cable	⟶	JP7

Appendix II: FRU Parts Table

GT24-B8236-IL FRU Parts					
Item	Model Number	Part Number	Picture	Quantity	Description
Motherboard	B8236G24V4H or B8236G24W4H	\		1	TYAN B8236G24V4H or B8236G24W4H Motherboard
Chassis Unit		432794700001		1	Chassis Unit;GT24-B8236
Chassis Top Cover	CCCV-0180	34078090001		1	GT24 Top Cover
Chassis Front Bezel	CFBZ-0070	541273910008		1	Front Bezel for GT24 Series 1UChassis
HDD Tray		340782800009		4	3.5" HDD Tray
Power Supply	CPSU-0520	471100000059		1	TF-POWER SUPPLY;SBU,500 W,DELTA,DPS-500VB B (S3F),1U MODULE,REV.S3F
Power Supply		471100000014		2	TF-POWER SUPPLY;SBU,450W , 3Y,YM-2451CE01R,C,1U MODULE,REV.C
FAN	CFAN-0241	336252012294		6	14700RPM,40*40*28MM
Heatsink & Cooler	CHSK-0450	343791800001		2	AMD G34 1U Passive Heatsink

PCBA	M2091	/		1	PCI-E X16 1U Riser Card(Left)
	M2091-R	/		1	PCI-E X16 1U Riser Card (Right)
	M1235	/		1	FAN/HDD adapter board
	M1008	/		1	Front Control Board
	M7016	411783400053		1	M7016-PDB
Rack Mounting Part	CRAL-0031	452783400001		1	Slide Rail Kit
	CRAL-0150	340740900010		1	Mounting Ear Kit
Cable Set	CCBL-072R	422780900001		1	Control Cable, 800mm
	CCBL-035O	422791600002		1	USB2.0 Cable, 650mm
		422794700001		1	FAN Control Cable,.350mm
	CCBL-067O	422784300005		1	Mini-SAS to Mini-SAS Cable, 400mm
	CCBL-0317	332810000397		1	A/C Power Cord, L=1800mm,US type
	CCBL-0300	332810000281		1	A/C Power Cord, L=1830mm,EU type

NOTE: The FRU Parts List is subject to change without prior notice. Please visit our Web site for the latest update.

Appendix III: Technical Support

If a problem arises with your system, you should first turn to your dealer for direct support. Your system has most likely been configured or designed by them and they should have the best idea of what hardware and software your system contains. Hence, they should be of the most assistance for you. Furthermore, if you purchased your system from a dealer near you, take the system to them directly to have it serviced instead of attempting to do so yourself (which can have expensive consequence).

If these options are not available for you then MiTAC International Corporation can help. Besides designing innovative and quality products for over a decade, MiTAC has continuously offered customers service beyond their expectations. TYAN's website (http://www.tyan.com) provides easy-to-access resources such as in-depth Linux Online Support sections with downloadable Linux drivers and comprehensive compatibility reports for chassis, memory and much more. With all these convenient resources just a few keystrokes away, users can easily find their latest software and operating system components to keep their systems running as powerful and productive as possible. MiTAC also ranks high for its commitment to fast and friendly customer support through email. By offering plenty of options for users, MiTAC serves multiple market segments with the industry's most competitive services to support them.

TYAN's tech support is some of the most impressive we've seen, with great response time and exceptional organization in general." — Anandtech.com

Please feel free to contact us directly for this service at tech-support@tyan.com

Help Resources:

1. See the TYAN's website for FAQ's, bulletins, driver updates, and other information: http://www.tyan.com
2. Contact your dealer for help before calling TYAN.
3. Check the TYAN user group: alt.comp.periphs.mainboard.TYAN

Returning Merchandise for Service

During the warranty period, contact your distributor or system vendor FIRST for any product problems. This warranty only covers normal customer use and does not cover damages incurred during shipping or failure due to the alteration, misuse, abuse, or improper maintenance of products.

Note:

A receipt or copy of your invoice marked with the date of purchase is required before any warranty service can be rendered. You may obtain service by calling the manufacturer for a Return Merchandise Authorization (RMA) number. The RMA number should be prominently displayed on the outside of the shipping carton and the package should be mailed prepaid.

TYAN will pay to have the board shipped back to you.

TYAN® GT24-B8236-IL Service Engineer's Manual V1.1

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